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Jennifer C. Sedlachek
Project Manager

ExxonMobil
Refining & Supply

May 18, 2005

Ms. Jo Bentz
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

RE: Former Exxon RAS #7-3035/4501 Sonoma Highway, Santa Rosa, California.

Dear Ms. Bentz:

Attached for your review and comment is a copy of the letter report entitled *Work Plan for Additional Site Assessment*, dated May 18, 2005, for the above-referenced site. The report was prepared by Environmental Resolutions, Inc. (ERI) of Petaluma, California, and details proposed activities at the subject site.

If you have any questions or comments, please contact me at 510.547.8196.

Sincerely,

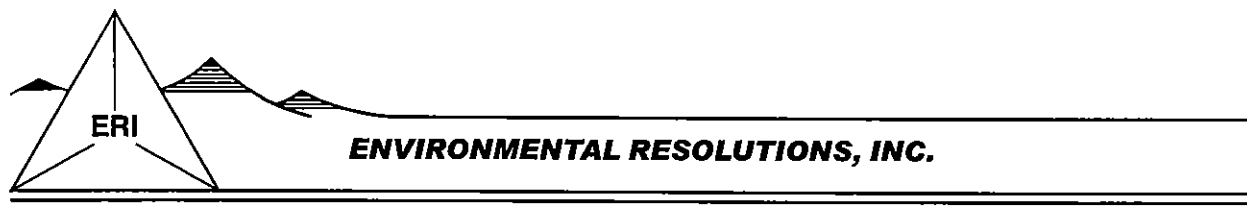


Jennifer C. Sedlachek
Project Manager

Attachment: ERI's Work Plan for Additional Site Assessment, dated May 18, 2005.

cc: w/ attachment
Mr. Paul Lowenthal, City of Santa Rosa Fire Department
Mr. Joseph A. Aldridge, Valero Energy Corporation

w/o attachment
Mr. James F. Chappell, Environmental Resolutions, Inc.



May 18, 2005
ERI 200303.W03

Ms. Jennifer C. Sedlachek
ExxonMobil Refining & Supply - Global Remediation
4096 Piedmont Avenue
Oakland, California 94611

Subject: Work Plan for Additional Site Assessment, Former Exxon Service Station 7-3035,
4501 Sonoma Highway, Santa Rosa, California

**California Regional Water Quality Control Board, North Coast Region, Case No.
1TSR295.**

Ms. Sedlachek:

At the request of ExxonMobil Oil Corporation (ExxonMobil), Environmental Resolutions, Inc. (ERI) has prepared this work plan for the subject site in response to a directive from the California Regional Water Quality Control Board, North Coast Region (the Regional Board), dated April 28, 2005 (Attachment A). ERI has prepared this work plan to further assess the lateral and vertical extent of dissolved-phase petroleum hydrocarbons and methyl tertiary butyl ether (MTBE) identified during the Cone Penetration Test (CPT) investigation detailed in ERI's report *Supplemental Evaluation of Groundwater*, dated December 8, 2004.

INTRODUCTION

The site is located on the western corner of Mission Boulevard and Sonoma Highway in Santa Rosa, California, as shown on the Site Vicinity Map (Plate 1). The locations of the underground storage tanks (USTs), dispenser islands, and other select site features are shown on the Generalized Site Plan (Plate 2). Currently, Premier Petroleum, Inc., operates the site as a Valero-branded service station. Valero Energy Corporation (Valero) owns the underground storage system operated at the site.

There are six groundwater monitoring wells on site (MW1 through MW4, MW7, and MW8) and two monitoring wells off site (MW5 and MW6) gauged and sampled on a quarterly basis. Historical and recent groundwater monitoring and sampling data are summarized in Tables 1A and 1B. Select analytical results from first quarter 2005 are shown on Plate 2, and first quarter 2005 groundwater elevation contours are shown on Plate 3.

BACKGROUND

In November 1993, three gasoline USTs, and the associated product lines and dispensers, were removed and replaced. In addition, one used-oil UST was removed. In December 1994, ExxonMobil initiated quarterly groundwater monitoring and sampling. An air sparge/soil vapor extraction (AS/SVE) remediation system was installed in December 1996. The AS/SVE system operated from December 1996 through July 1998. The AS/SVE remediation system was retrofitted to a dual-phase extraction (DPE) remediation system in 2002. The DPE remediation system operated intermittently from January 2003 to June 2003, and continuously from June 2003 to present.

In August and September 2004, five CPT (CPT1 through CPT5) borings were advanced. The CPT logs are provided in Attachment B. Details of this investigation were presented in ERI's *Supplemental Evaluation of Groundwater*. Following the advancement of the CPT borings, grab groundwater samples were collected in adjacent Hydropunch borings, in multiple water-bearing intervals identified in the CPT borings. The locations of the CPT borings and select analytical results of the grab groundwater samples are presented on Plate 4. Complete analytical results are presented in Tables 2A and 2B.

In October 2004, MTBE was detected in water samples collected from the private irrigation well located at 4389 Sonoma Highway. In November 2004, ERI performed a door-to-door survey of properties located downgradient of the subject site to identify other domestic irrigation and water wells. After confirming the existence of nine wells, ERI was able to obtain access, and collect samples from eight of the nine wells. Details of the domestic well investigation were presented in ERI's *Summary of Sampling of Domestic Wells*, dated March 24, 2005. The location of the domestic wells and select analytical results of the domestic well sampling are presented on Plate 4. Complete analytical results are presented in Table 3. ERI and Exxon Mobil are currently continuing access negotiations with the owner of the ninth domestic well.

SITE CONDITIONS

Site Geology and Hydrogeology

The site is located on sediments mapped as Late Pleistocene (older) Alluvium (Wagner and Bortugno, 1982). Exploratory borings indicate the sediments beneath the subject site and vicinity consist predominantly of heterogeneous mixtures of clayey silt, silt, silty and clayey sands, and some sandy gravel. Results of borings CPT1 through CPT5 indicate that there are multiple coarser-grained water-bearing zones below the site and vicinity. A shallow zone is apparent above approximately 20 to 30 feet below ground surface (bgs). An intermediate zone is indicated between approximately 35 and 55 feet bgs. Concentrations of petroleum hydrocarbons were detected in water samples collected from the shallow and/or intermediate zones in CPT1, CPT3, CPT4, and CPT5.

In 2004, groundwater beneath the site fluctuated from approximately 11 to 25 feet bgs. Results of quarterly groundwater monitoring indicate that groundwater beneath the site flows towards the southwest. A rose diagram illustrating the groundwater flow direction from second quarter 1999 to first quarter 2005 is included on Plate 3.

Santa Rosa Creek is located approximately 700 feet south of the subject site and flows westward. Brush Creek is approximately 900 feet west of the subject site and flows southward. Lake Ralphine is located approximately 2,000 feet southeast of the subject site.

PROPOSED WORK

Two additional CPT and Hydropunch borings will be advanced to further assess the stratigraphy and groundwater conditions south and southwest of the site. Following completion of the CPT/Hydropunch investigation, CPT logs and groundwater analytical results will be evaluated to determine appropriate locations for additional groundwater monitoring wells. Tentatively, 14 new wells are proposed at five locations west and south of the site. Two or three wells will be installed at each location to monitor the lateral and vertical extent of petroleum hydrocarbons and MTBE in groundwater over time. The proposed well locations will be modified if the results of CPT and hydropunch borings indicate relocation is warranted. In addition, these groundwater monitoring wells will serve as sentry wells between the site and the domestic wells downgradient of the site (Plate 5).

ERI will perform the proposed field work in accordance with this Work Plan, ERI's Field Protocol (Attachment C), and a site-specific health and safety plan. The specific proposed tasks are summarized in the following sub-sections.

Task 1 Pre-Drilling Activities

As part of pre-drilling activities, ERI will:

- Negotiate access with property owners for the off-site CPT borings and monitoring wells.
- Obtain drilling permits from the Sonoma County Environmental Health Services Agency (the County).
- Obtain the services of a private utility locator.
- Contact Underground Service Alert (USA) to coordinate utility locating activities.

Task 2 Additional CPT Borings and Groundwater Sampling

As part of soil boring activities, ERI will:

- Obtain the services of a licensed well driller and observe the clearance of each boring location using a hand-auger or air- or water-knife to 4 to 8 feet bgs, as required by ExxonMobil.
- Observe the advancement of borings CPT6 and CPT7 to approximately 80 feet bgs using a CPT drilling rig. The proposed CPT locations are shown on Plate 5. The location of boring CPT6 was selected to evaluate stratigraphy and groundwater conditions southeast of boring CPT4 and monitoring well MW5. The location of boring CPT7 was selected to evaluate stratigraphy and groundwater conditions between boring CPT4 and the domestic water supply wells located at 4420 Sonoma Highway.
- Evaluate the logs of borings CPT6 and CPT7 and observe the advancement of one direct-push boring (Hydropunch®, or similar) adjacent to each CPT boring. Collect groundwater samples from the borings from the first-encountered groundwater and from deeper, coarse-grained sediments identified in the CPT logs.
- Submit groundwater samples collected from the direct-push borings to TestAmerica Incorporated (TestAmerica), a California state-certified analytical laboratory, under Chain-of-Custody protocol. Groundwater samples will be submitted for analysis of total petroleum hydrocarbons as gasoline (TPHg) using Environmental Protection Agency (EPA) Method 8015B; and benzene, toluene, ethylbenzene, and total xylenes (BTEX), ethyl tertiary butyl ether (ETBE), tertiary amyl methyl ether (TAME), tertiary butyl alcohol (TBA), 1,2-dibromoethane (EDB), 1,2-dichloroethane (1,2-DCA), MTBE, di-isopropyl ether (DIPE), and ethanol using EPA Method 8260B.
- Store generated soil in drums on site pending disposal. Process rinsate water through the on-site remediation system.
- Interpret field and laboratory data to evaluate soil and groundwater conditions, and propose revised groundwater monitoring well locations if warranted.

Task 3 Groundwater Monitoring Well Installation

Following the advancement of borings CPT6 and CPT7, ERI will evaluate the CPT logs and results of the groundwater samples collected from the borings. Using the data obtained from the advancement of borings CPT1 through CPT7, the proposed monitoring wells will be installed to evaluate and monitor groundwater conditions downgradient of the site. The wells will be constructed to monitor shallow groundwater, a possible intermediate ("B") water-bearing zone, and a deeper ("C") water-bearing zone. The intent is to characterize shallow and intermediate groundwater conditions with the "A" and "B" wells, and to provide vertical delineation with the "C" wells.

As part of groundwater monitoring well installation, ERI will perform the following activities:

- Obtain the services of a licensed well driller and observe the clearance of each boring location using a hand-auger or air or water knife to 4 to 8 feet bgs, as required by ExxonMobil.
- Observe the drilling of three on-site soil borings (MW12A, MW12B, and MW12C) and 11 off-site soil borings (MW5B, MW5C, MW9A, MW9B, MW9C, MW10A, MW10B, MW10C, MW11A, MW11B, and MW11C) using a hollow-stem auger drilling rig. Soil samples will be collected at approximately 5-foot intervals from the borings, and continuously across the anticipated screen intervals. The locations of the proposed soil borings are shown on Plates 5.
- The locations of monitoring wells MW5B and MW5C are selected to monitor groundwater conditions south of the site. The locations of monitoring wells MW9A, MW9B, and MW9C are selected to monitor groundwater conditions between the site and the irrigation well located at 4389 Sonoma Highway. The locations of monitoring wells MW10A, MW10B, and MW10C are selected to monitor groundwater conditions between the site and the domestic wells located at 4344, 4358, 4372, 4200, and 4100 Sonoma Highway. The locations of monitoring wells MW11A, MW11B, and MW11C are selected to monitor groundwater conditions between the site and the two domestic wells located at 4420 Sonoma Highway. The locations of monitoring wells MW12A, MW12B, and MW12C are selected to monitor groundwater conditions beneath the site.
- Soil borings MW9A, MW10A, MW11A, and MW12A will be advanced to a minimum depth of 10 feet below first-encountered groundwater. Based on quarterly groundwater data, ERI anticipates groundwater to be encountered at approximately 10 to 20 feet bgs.
- Soil borings MW5B, MW9B, MW10B, MW11B, and MW12B will initially be drilled to an interpreted aquitard below first-encountered groundwater with a 12-inch diameter hollow-stem auger. Based on the results of borings CPT1 through CPT5, ERI anticipates this will be approximately 30-40 feet bgs. The driller will then set a 10-inch diameter steel casing from ground surface to the temporary base of each boring. The casing will then be set with a cement-bentonite grout and allowed to cure (a minimum duration of 24-hours). The use of the casing is employed to minimize mixing between the shallow and B zones of the aquifer during drilling and sample collection.
- Once the grout has cured, standing water will be pumped from the casing to allow for deeper drilling. Borings MW5B, MW9B, MW10B, MW11B, and MW12B will then be advanced with an 8-inch diameter hollow-stem auger to a depth coincident with a water-bearing zone identified in the CPT borings. Based on the results of borings CPT1 through CPT5, ERI anticipates this will be approximately 35-55 feet bgs.
- Soil borings MW5C, MW9C, MW10C, MW11C, and MW12C initially will be drilled to an interpreted aquitard below the intermediate water-bearing zone with a 12-inch diameter hollow-stem auger. Based on the results of borings CPT1 through CPT5, ERI anticipates this will be approximately 40 to 60 feet bgs. The driller will then set a 10-inch diameter steel casing from ground surface to the temporary base of each boring. The casing will then be set with a cement-bentonite grout and allowed to cure (a minimum duration of 24 hours).
- Soil borings MW5C, MW9C, MW10C, MW11C, and MW12C will then be advanced with an 8-inch diameter hollow-stem auger to a depth coincident with a water-bearing zone identified in the CPT borings. Based on the results of borings CPT1 through CPT5, ERI anticipates this will be approximately 55 to 80 feet bgs.
- Observe the driller construct monitoring wells MW5B, MW5C, MW9A, MW9B, MW9C, MW10A, MW10B, MW10C, MW11A, MW11B, MW11C, MW12A, MW12B, and MW12C in the respective borings. ERI will use the results of CPT borings CPT1 through CPT7 to screen the wells across coarse-grained sediment layers.

- The anticipated approximate screen intervals, steel casing depths, and total depths are presented in Table 4. The depths and screen intervals of the monitoring wells MW9A, MW9B, MW9C, MW10A, MW10B, MW10C, MW12A, MW12B, and MW12C were selected based on the results of CPT1 through CPT5. The proposed depths and screen intervals for MW5B, MW5C, MW11A, MW11B, and MW11C will be based on the results of borings CPT6 and CPT7. The number, location, and design of the monitoring wells may vary based on conditions encountered in the field.
- Submit select soil samples to TestAmerica, under Chain-of-Custody protocol. Soil samples will be submitted for analysis of TPHg using EPA Method 8015B, and BTEX, ETBE, TAME, TBA, 1,2-DCA, EDB, MTBE, DIPE, and ethanol using EPA Method 8260B.
- Store generated soil in a stockpile on plastic sheeting and rinsate water in drums on site pending disposal. ERI will collect four soil samples from the soil stockpile to be composited by the laboratory for analysis. Upon receipt of analytical results for the stockpiled soil, ERI will apprise ExxonMobil of disposal options, and coordinate the disposal of the soil at an appropriate disposal facility selected and approved by ExxonMobil.
- Develop the newly installed wells by use of a surge block and pump, and collect groundwater samples from the wells. Groundwater samples will be collected from the newly installed wells at least 24 hours after well development. Well development water will be processed through the on-site remediation system and discharged to the sanitary sewer system.
- Contract with a licensed land surveyor to survey the location (known survey grid) and casing elevation (mean sea level) of the CPT borings and newly installed wells, pursuant to AB 2886 standards.

Task 4 Report Preparation

ERI will interpret field and laboratory data to evaluate soil and groundwater conditions and will prepare a report for this investigation. The report will detail field activities, sample collection, field observations, results of the field investigations, and analytical results for soil and groundwater samples. The report will also propose any additional work that is warranted.

DOCUMENT DISTRIBUTION

ERI recommends forwarding copies of this report to:

Ms. Jo Bentz
California Regional Water Quality Control Board
North Coast Region
5550 Skylane Boulevard, Suite A
Santa Rosa, California 95403

Mr. Paul Lowenthal
City of Santa Rosa Fire Department
955 Sonoma Avenue
Santa Rosa, California 95404

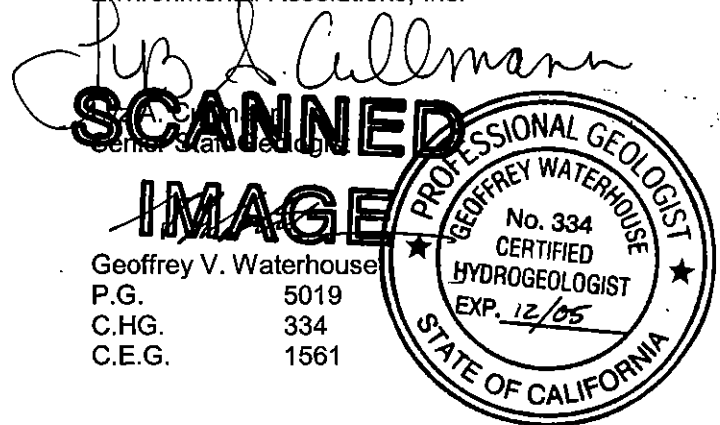
Mr. Joseph A. Aldridge
Valero Energy Corporation
685 West Third Street
Hanford, California 93230

LIMITATIONS

This report was prepared in accordance with generally accepted standards of environmental practice in California at the time this investigation was performed. This report has been prepared for ExxonMobil, and any reliance on this report by third parties shall be at such party's sole risk.

Please call Mr. James F. Chappell, ERI's interim project manager for this site, at (707) 766-2000 with any questions regarding this report.

Sincerely,
Environmental Resolutions, Inc.



Geoffrey V. Waterhouse
P.G. 5019
C.H.G. 334
C.E.G. 1561

Attachments: References

Table 1A:	Cumulative Groundwater Monitoring and Sampling Data
Table 1B:	Additional Cumulative Groundwater Monitoring and Sampling Data
Table 2A:	Analytical Laboratory Results of Groundwater Samples
Table 2B:	Additional Analytical Laboratory Results of Groundwater Samples
Table 3:	Private Water Wells Sampling Data
Table 4:	Proposed Monitoring Well Design
Plate 1:	Site Vicinity Map
Plate 2:	Generalized Site Plan
Plate 3:	Groundwater Elevation Map
Plate 4:	CPT and Domestic Well Results
Plate 5:	Proposed CPT and Monitoring Well Location Map
Attachment A:	Regulatory Correspondence
Attachment B:	Gregg Drilling Cone Penetration Test Logs
Attachment C:	Field Protocol

REFERENCES

Environmental Resolutions, Inc., December 8, 2004. Supplemental Evaluation of Groundwater, Former Exxon Service Station 7-3035, 4501 Sonoma Hwy, Santa Rosa, California. ERI 200303.R24.

Environmental Resolutions, Inc., March 24, 2005. Summary of Sampling of Domestic Wells. ERI 200303.R26.

D.L. Wagner and E.J. Bortugno. 1982. Geologic Map of the Santa Rosa Quadrangle.

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-3035
4501 Sonoma Highway
Santa Rosa, California
(Page 1 of 4)

Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHg	MTBE 8020-8021B	MTBE 8260B	B	T	E	X
			←feet→		←μg/L→						
MW1 (235.81)	12/01/94	NLPH	18.21	217.60	2,100	—	—	23*	<10	<10	<10
	02/22/95	NLPH	14.48	221.33	150	—	—	5.9	0.67	1.1	2.5
	04/10/95	NLPH	13.38	222.43	190	—	—	<1.0	<1.0	<1.0	<1.0
	07/05/95	NLPH	19.67	216.14	140	—	—	<0.5	<0.5	<0.5	<0.5
	10/17/95	NLPH	22.81	213.00	59	—	—	<0.5	<0.5	<0.5	<0.5
	01/05/96	NLPH	18.26	217.55	<100	—	—	<1.0	<1.0	<1.0	<1.0
	04/15/96	NLPH	16.00	219.81	190	—	—	5.5	<0.5	<0.5	<0.5
	07/16/96	NLPH	19.98	215.83	120	—	—	6.0	<0.5	<0.5	<0.5
	10/02/96	NLPH	23.22	212.59	93	—	—	<0.5	<0.5	<0.5	<0.5
	01/02/97	NLPH	11.87	223.94	60	3,100	—	<0.5	<0.5	<0.5	<0.5
	04/03/97	NLPH	18.36	217.45	<50	19	—	<0.5	<0.5	<0.5	<0.5
	07/03/97	NLPH	20.07	215.74	<50	2.7	—	<0.5	<0.5	<0.5	<0.5
	10/02/97	NLPH	22.15	213.66	<50	<2.5	—	<0.5	<0.5	<0.5	<0.5
	01/09/98	NLPH	16.48	219.33	<50	3.6	—	<0.5	<0.5	<0.5	<0.5
	04/01/98	NLPH	14.78	221.03	<50	40	40	<0.5	<0.5	<0.5	<0.5
	07/02/98	NLPH	18.58	217.23	<50	71	—	<0.5	<0.5	<0.5	<0.5
	10/01/98	NLPH	21.00	214.81	<50	120	—	<0.5	<0.5	<0.5	<0.5
	01/07/99	NLPH	20.72	215.09	<500	12,000	—	<5.0	<5.0	<5.0	<5.0
	04/07/99	NLPH	14.79	221.02	<2,500	4,530	5,010	<25	<25	<25	<25
	07/13/99	NLPH	21.30	214.51	<50	3,190	—	<0.5	<0.5	<0.5	<0.5
	10/28/99	NLPH	20.31	215.50	<50	590	—	<1	<1	<1	<1
	02/23/00	NLPH	11.69	224.12	<50	600	420	<0.5	<0.5	<0.5	<0.5
	05/30/00	NLPH	11.93	223.88	<50	7,200	7,800	<0.5	<0.5	<0.5	<0.5
	6/16/00	Property transferred to Valero Refining Company.									
	07/24/00	NLPH	20.40	215.41	<250	26,000	26,000	<2.5	<2.5	<2.5	<2.5
	10/06/00	NLPH	21.62	214.19	<50	8,700	6,600	<0.5	<0.5	<0.5	<0.5
	01/05/01	NLPH	22.14	213.67	<250	16,000	18,000	<0.5	<0.5	<0.5	<0.5
	04/09/01	NLPH	18.36	217.45	<50	24,000	23,000	<0.5	<0.5	<0.5	<0.5
	07/09/01	NLPH	21.31	214.50	250	30,000	27,000	<0.5	<0.5	<0.5	<0.5
	10/01/01	NLPH	22.54	213.27	<50	17,000	18,000	<0.5	1.8	<0.5	<0.5
(236.72)	11/01/01	Well surveyed in compliance with AB 2886 requirements.									
	01/03/02	NLPH	10.23	226.49	765	972	1,190	0.80	1.30	0.50	4.00
	04/11/02	NLPH	19.00	217.72	30,500	—	22,500	0.70	<0.50	<0.50	<0.50
	07/05/02	NLPH	21.34	215.38	17,100	19,700	20,800	<50.0	<50.0	<50.0	<50.0
	10/07/02	NLPH	21.59	215.13	6,750	11,500	11,000	<0.5	<0.5	<0.5	0.9
	01/24/03	NLPH	12.60	224.12	2,540	2,340	2,580	<0.5	<0.5	<0.5	<0.5
	04/07/03	NLPH	17.11	219.61	3,480	4,280	4,640	<0.50	<0.5	<0.5	<0.5
	7/11/03b	NLPH	19.55	217.17	3,530	3,580	4,630	<0.50	<0.5	<0.5	<0.5
	10/02/03	NLPH	21.92	214.80	1,320	1,240	1,610	<0.50	<0.5	<0.5	<0.5
	01/09/04	NLPH	13.40	223.32	215	293	320	<0.50	<0.5	<0.5	<0.5
	04/06/04	NLPH	25.23	211.49	7,270	10,000	7,260	0.80	<0.5	<0.5	<0.5
	08/25/04	NLPH	23.59	213.13	<50.0	9.1	8.50	<0.50	<0.5	<0.5	<0.5
	11/15/04	NLPH	25.68	211.04	9,780	8,420	9,900	<0.50	<0.5	1.2	2.9
	02/17/05	NLPH	18.63	218.09	1,320	—	1,620	<0.50	<0.5	<0.5	0.8
MW2 (234.86)	12/01/04	NLPH	16.37	218.49	1,600	—	—	640	<4	18	34
	02/22/95	NLPH	11.27	223.59	47,000	—	—	5,100	3,200	1,800	6100
	04/10/95	NLPH	9.65	225.21	22,000	—	—	2,500	590	1,100	2400
	07/05/95	NLPH	17.93	216.93	1,100	—	—	45	<5.0	19	<5.0
	10/17/95	NLPH	21.33	213.53	<1,000	—	—	<10	<10	<10	<10
	01/05/96	NLPH	16.08	218.78	3,600	—	—	390	<13	140	22
	04/15/96	NLPH	12.81	222.05	9,600	—	—	470	<50	410	100
	07/16/96	NLPH	18.55	216.31	640	—	—	24.0	<2.5	<2.5	<2.5
	10/02/96	NLPH	21.95	212.91	660	—	—	6.0	1.4	<1.2	<1.2
	01/02/97	NLPH	7.41	a	1,900	15,000	—	370	<5.0	<5.0	<5.0
	04/03/97	NLPH	13.28	221.58	<1,250	6,500	—	<12	<12	<12	<12
	07/03/97	NLPH	14.67	221.12	<50	2,900	3,900	1.7	<0.5	<0.5	0.91
	10/02/97	NLPH	16.03	219.76	<50	140	—	<0.5	<0.5	<0.5	<0.5
	01/09/98	NLPH	13.61	222.18	60	1,100	—	<0.5	<0.5	<0.5	<0.5
	04/01/98	NLPH	11.84	223.95	170	1,900	1,900	6.4	<0.5	<0.5	<0.5
	07/02/98	NLPH	16.49	219.30	190	2,800	—	<1.0	<1.0	<1.0	<1.0
	10/01/98	NLPH	18.00	217.79	180	750	—	<0.5	<0.5	<0.5	<0.5
	01/07/99	NLPH	20.35	215.44	150	1,200	—	<0.5	1.3	<0.5	<0.5

Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHg	MTBE 8020-8021B	MTBE 8260B	B	T	E	X	
			←feet→					μg/L				
MW2 (cont.) (235.79)	04/07/99	NLPH	12.20	223.59	<1,000	1,770	—	<10	<10.0	<10.0	<10.0	
	07/13/99	NLPH	19.40	216.39	199	500	—	0.897	<0.5	<0.5	<0.5	
	10/28/99	NLPH	17.09	218.70	<250	19,000	—	<5	<5	<5	<5	
	02/23/00	NLPH	11.27	224.52	260	8,800	6,500	<0.5	<0.5	<0.5	<0.5	
	05/30/00	NLPH	11.09	224.70	260	2,000	2,000	<0.5	<0.5	<0.5	<0.5	
	6/16/00	Property transferred to Valero Refining Company.										
	07/24/00	NLPH	17.10	218.69	150	2,100	2,000	<0.5	<0.5	<0.5	<0.5	
	10/06/00	NLPH	18.62	217.17	150	1,800	1,200	<0.5	<0.5	<0.5	0.84	
	01/05/01	NLPH	21.51	214.28	74	510	530	<0.5	<0.5	<0.5	<0.5	
	04/09/01	NLPH	16.63	219.16	<50	490	510	<0.5	<0.5	<0.5	<0.5	
	07/09/01	NLPH	19.64	216.15	<50	430	360	<0.5	<0.5	<0.5	<0.5	
	10/01/01	NLPH	20.69	215.10	<50	360	390	<0.5	<0.5	<0.5	<0.5	
	(235.77)	11/01/01	Well surveyed in compliance with AB 2886 requirements.									
		01/03/02	NLPH	8.47	227.30	483	510	621	<0.50	<0.50	<0.50	<0.50
		04/11/02	NLPH	16.18	219.59	188	—	171	<0.50	<0.50	<0.50	<0.50
		07/05/02	NLPH	20.24	215.53	280	240	208	<5.0	<5.0	<5.0	<5.0
		10/07/02	NLPH	19.15	216.62	92.3	13.1	134	<0.5	<0.5	<0.5	<0.5
		01/24/03	NLPH	10.16	225.61	128	116	118	<0.5	<0.5	<0.5	<0.5
		04/07/03	NLPH	14.40	221.37	<50.0	33.5	35.0	<0.50	<0.5	<0.5	<0.5
		7/11/03b	NLPH	18.42	217.35	<50.0	20.8	22.4	<0.50	<0.5	<0.5	<0.5
		10/02/03	NLPH	20.43	215.34	<50.0	10.2	11.6	<0.50	<0.5	<0.5	<0.5
		01/09/04	NLPH	10.78	224.99	<50.0	10.0	9.80	<0.50	<0.5	<0.5	<0.5
		04/06/04	NLPH	20.25	215.52	d	d	d	d	d	d	d
		08/25/04	NLPH	19.14	216.63	<50.0	1.0	0.90	<0.50	<0.5	<0.5	<0.5
		11/15/04	NLPH	22.70	213.07	<50.0	3.1	2.10	<0.50	<0.5	<0.5	1.3
		02/17/05	NLPH	17.55	218.22	<50.0	—	0.80	<0.50	<0.5	<0.5	<0.5
	MW3 (233.13)	12/01/94	NLPH	14.43	218.70	<50	—	—	<0.5	<0.5	<0.5	<0.5
		02/22/95	NLPH	9.73	223.40	<50	—	—	<0.5	<0.5	<0.5	<0.5
		04/10/95	NLPH	8.76	224.37	<50	—	—	<0.5	<0.5	<0.5	<0.5
		07/05/95	NLPH	15.28	217.85	<50	—	—	<0.5	<0.5	<0.5	<0.5
		10/17/95	NLPH	19.09	214.04	<50	—	—	2.1	<0.5	0.89	<1.0
		01/05/96	NLPH	14.00	219.13	<50	—	—	<0.5	<0.5	<0.5	<0.5
04/15/96		NLPH	11.18	221.95	<50	—	—	<0.5	<0.5	<0.5	<0.5	
07/16/96		NLPH	16.53	216.60	<50	—	—	0.90	3.4	0.62	3.0	
10/02/96		NLPH	Not Accessible									
01/02/97		NLPH	6.99	a	<50	<2.5	—	<0.5	<0.5	<0.5	<0.5	
04/03/97		NLPH	12.03	221.10	<50	<2.5	—	<0.5	<0.5	<0.5	<0.5	
07/03/97		NLPH	16.33	216.80	<50	<2.5	—	<0.5	<0.5	<0.5	<0.5	
10/02/97		NLPH	17.73	215.40	180	51	—	2.8	<0.5	<0.5	<0.5	
01/09/98		NLPH	11.14	221.99	<50	<2.5	—	<0.5	<0.5	<0.5	<0.5	
04/01/98		NLPH	9.76	223.37	<50	<2.5	<2.0	<0.5	<0.5	<0.5	<0.5	
07/02/98		NLPH	14.25	218.88	<50	<2.5	—	<0.5	<0.5	<0.5	<0.5	
10/01/98		NLPH	17.03	216.10	110	13	—	3.3	0.71	<0.5	1.6	
01/07/99		NLPH	16.83	216.30	<50	16	—	0.57	<0.5	0.60	1.7	
04/07/99		NLPH	9.89	223.24	<50	<2.0	—	<0.5	<0.5	<0.5	<0.5	
07/13/99		NLPH	16.90	216.23	<50	<2.5	—	<0.5	<0.5	<0.5	<0.5	
10/28/99		NLPH	17.55	215.58	<50	<1	—	<1	<1	<1	<1	
02/23/00		NLPH	11.87	221.26	<50	<2	—	<0.5	<0.5	<0.5	<0.5	
05/30/00		NLPH	11.33	221.80	<50	<2	<5	<0.5	<0.5	<0.5	<0.5	
6/16/00		Property transferred to Valero Refining Company.										
07/24/00		NLPH	15.48	217.65	<50	3.4	15	<0.5	<0.5	<0.5	<0.5	
10/06/00		NLPH	17.53	215.60	<50	<2	—	1.5	1.6	0.78	3.8	
01/05/01		NLPH	18.31	214.82	51	<2	—	3.2	2.4	1.1	4.5	
04/09/01		NLPH	13.23	219.90	<50	<2	—	<0.5	<0.5	<0.5	<0.5	
07/09/01		NLPH	16.57	216.56	<50	<2	—	<0.5	<0.5	<0.5	<0.5	
10/01/01		NLPH	19.99	213.14	<50	<2	—	<0.5	<0.5	<0.5	<0.5	
(233.08)		11/01/01	Well surveyed in compliance with AB 2886 requirements.									
		01/03/02	NLPH	6.00	227.08	<50.0	1.6	1.94	<0.50	0.70	<0.50	2.40
	04/11/02	NLPH	13.16	219.92	<50.0	—	0.6	<0.50	<0.50	<0.50	<0.50	
	07/05/02	NLPH	15.10	217.98	<50.0	<0.5	—	<0.5	<0.5	<0.5	1.0	
	10/07/02	NLPH	16.84	216.24	<50.0	1.4	1.20	<0.5	<0.5	<0.5	<0.5	
	01/24/03	NLPH	7.92	225.16	<50.0	1.3	1.30	<0.5	<0.5	<0.5	<0.5	

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-3035
4501 Sonoma Highway
Santa Rosa, California
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Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHg	MTBE 8020-8021B	MTBE 8260B	B	T	E	X
			feet		µg/L						
MW3 (cont.) (233.08)	04/07/03	NLPH	11.84	221.24	<50.0	0.7	0.60	<0.50	<0.5	<0.5	<0.5
	7/11/03b	NLPH	14.38	218.70	<50.0	0.6	<0.50	<0.50	<0.5	<0.5	<0.5
	10/02/03	NLPH	17.3	215.78	<50.0	1.0	0.90	<0.50	<0.5	<0.5	<0.5
	01/07/04	NLPH	c	c	c	c	c	c	c	c	c
	04/06/04	NLPH	13.35	219.73	<50.0	1.1	1.2	0.80	<0.5	1.0	1.7
	08/25/04	NLPH	18.54	214.54	<50.0	—	<0.5	<0.50	<0.5	<0.5	<0.5
	11/15/04	NLPH	18.46	214.62	<50.0	2.6	2.30	<0.50	0.6	0.5	1.9
	02/17/05	NLPH	14.08	219.00	<50.0	—	5.70	<0.50	<0.5	<0.5	0.8
MW4 (235.67)	12/01/94	NLPH	17.91	217.76	<50	—	—	<0.5	<0.5	<0.5	<0.5
	02/22/95	NLPH	13.51	222.16	<50	—	—	<0.5	<0.5	<0.5	<0.5
	04/10/95	NLPH	12.85	222.82	<50	—	—	<0.5	<0.5	<0.5	<0.5
	07/05/95	NLPH	19.28	216.39	<50	—	—	<0.5	<0.5	<0.5	<0.5
	10/17/95	NLPH	22.43	213.24	<50	—	—	<0.5	<0.5	<0.5	<0.5
	01/05/96	NLPH	17.47	218.20	<50	—	—	<0.5	<0.5	<0.5	<0.5
	04/15/96	NLPH	15.46	220.21	<50	—	—	<0.5	<0.5	<0.5	<0.5
	07/16/96	NLPH	20.07	215.60	<50	—	—	<0.5	<0.5	<0.5	<0.5
	10/02/96	NLPH	22.54	213.13	<50	—	—	<0.5	<0.5	<0.5	<0.5
	01/02/97	NLPH	10.92	224.75	<50	4.3	—	<0.5	<0.5	<0.5	<0.5
	04/03/97	NLPH	15.78	219.89	<50	8.6	—	<0.5	<0.5	<0.5	<0.5
	07/03/97	NLPH	19.66	216.01	<50	9.9	—	<0.5	<0.5	<0.5	<0.5
	10/02/97	NLPH	21.80	213.87	<50	7.3	—	<0.5	<0.5	<0.5	0.66
	01/09/98	NLPH	15.41	220.26	<50	9.2	—	<0.5	<0.5	<0.5	<0.5
	04/01/98	NLPH	14.08	221.59	<50	95	110.0	<0.5	<0.5	<0.5	<0.5
	07/02/98	NLPH	18.49	217.18	<50	82	—	<0.5	<0.5	<0.5	<0.5
	10/01/98	NLPH	21.88	213.79	<50	27	—	<0.5	<0.5	<0.5	<0.5
	01/07/99	NLPH	20.03	215.64	<50	62	—	<0.5	<0.5	<0.5	<0.5
	04/07/99	NLPH	14.49	221.18	<50	94.4	—	<0.5	<0.5	<0.5	<0.5
	07/13/99	NLPH	20.94	214.73	<50	40.5	—	<0.5	<0.5	<0.5	<0.5
	10/28/99	NLPH	21.13	214.54	<50	69	—	<1	<1	<1	<1
	02/23/00	NLPH	12.08	223.59	<50	20	14	<0.5	<0.5	<0.5	<0.5
	05/30/00	NLPH	12.19	223.48	<50	52	47	<0.5	<0.5	<0.5	<0.5
	06/16/00	Property transferred to Valero Refining Company.									
	07/24/00	NLPH	20.81	214.86	<50	200	150	<0.5	<0.5	<0.5	<0.5
	10/06/00	NLPH	21.74	213.93	<50	260	180	<0.5	0.51	<0.5	0.77
	01/05/01	NLPH	21.40	214.27	<50	290	—	<0.5	<0.5	<0.5	<0.5
	04/09/01	NLPH	18.40	217.27	<50	1,500	1,900	<0.5	<0.5	<0.5	<0.5
	07/09/01	NLPH	21.38	214.29	<50	1,900	1,800	<0.5	<0.5	<0.5	<0.5
	10/01/01	NLPH	22.39	213.28	<50	310	380	<0.5	<0.5	<0.5	<0.5
	11/01/01	Well surveyed in compliance with AB 2886 requirements.									
	01/03/02	NLPH	9.71	226.00	<50.0	55.1	87.5	<0.50	0.50	<0.50	2.00
	04/11/02	NLPH	18.42	217.29	619	—	1,040	<0.50	<0.50	<0.50	<0.50
	07/05/02	NLPH	17.68	218.03	699	761	722	<5.0	<5.0	<5.0	<5.0
	10/07/02	NLPH	21.32	214.39	461	659	801	<0.5	<0.5	<0.5	<0.5
	01/24/03	NLPH	11.78	223.93	266	345	269	<0.5	<0.5	<0.5	<0.5
	04/07/03	NLPH	17.32	218.39	822	992	1,130	<0.50	<0.5	<0.5	<0.5
	7/11/03b	NLPH	19.41	216.30	867	838	965	<0.50	<0.5	<0.5	<0.5
	10/02/03	NLPH	21.66	214.05	627	677	830	<0.50	<0.5	<0.5	<0.5
	01/09/04	NLPH	13.35	222.36	175	240	277	<0.50	<0.5	<0.5	<0.5
	04/06/04	NLPH	18.90	216.81	290	386	314	0.50	<0.5	1.9	2.9
	08/25/04	NLPH	22.74	212.97	499	686	508	<0.50	<0.5	<0.5	<0.5
	11/15/04	NLPH	21.82	213.89	281	240	286	<0.50	0.50	<0.5	1.3
	02/17/05	NLPH	17.88	217.83	574	—	640	<0.50	<0.5	<0.5	<0.5
MW5 (232.31)	Dec-02	Well surveyed in compliance with AB 2886 requirements.									
	01/24/03	NLPH	12.24	220.07	<50.0	17.0	16.6	<0.5	<0.5	<0.5	<0.5
	04/07/03	NLPH	14.69	217.62	<50.0	22.3	23.4	<0.50	<0.5	<0.5	<0.5
	7/11/03b	NLPH	16.18	216.13	<50.0	8.8	9.10	<0.50	<0.5	<0.5	<0.5
	10/02/03	NLPH	18.84	213.47	<50.0	2.5	2.90	<0.50	<0.5	<0.5	<0.5
	01/09/04	NLPH	12.57	219.74	<50.0	3.70	3.4	<0.50	<0.5	<0.5	<0.5
	04/06/04	NLPH	15.51	216.80	<50.0	7.5	5.1	<0.50	<0.5	<0.5	<0.5
	08/25/04	NLPH	18.34	213.97	<50.0	0.9	0.70	<0.50	<0.5	<0.5	<0.5
	11/15/04	NLPH	18.77	213.54	<50.0	<0.5	—	<0.50	<0.5	<0.5	1.0
	02/17/05	NLPH	15.71	216.60	<50.0	—	<0.50	<0.50	<0.5	<0.5	<0.5

TABLE 1A
CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-3035
4501 Sonoma Highway
Santa Rosa, California
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Well ID # (TOC)	Sampling Date	SUBJ	DTW	Elev.	TPHg	MTBE 8020-8021B	MTBE 8260B	B	T	E	X
			feet		µg/L						
MW6 (231.91)	10/07/02	NLPH	19.09	—	<50.0	17.5	17.0	<0.5	<0.5	<0.5	<0.5
	Dec-02	Well surveyed in compliance with AB 2886 requirements.									
	01/24/03	NLPH	11.42	220.49	<50.0	1.6	1.50	<0.5	<0.5	<0.5	<0.5
	04/07/03	NLPH	15.08	216.83	<50.0	7.1	7.20	<0.50	<0.5	<0.5	<0.5
	7/11/03b	NLPH	17.70	214.21	63.7	52.9	57.9	<0.50	<0.5	<0.5	<0.5
	10/02/03	NLPH	19.44	212.47	<50.0	38.1	45.6	<0.50	<0.5	<0.5	<0.5
	01/09/04	NLPH	12.05	219.86	<50.0	3.0	3.00	<0.50	<0.5	<0.5	<0.5
	04/06/04	NLPH	15.47	216.44	<50.0	17.3	14.4	<0.50	<0.5	<0.5	<0.5
	08/25/04	NLPH	20.50	211.41	<50.0	45.6	42.2	<0.50	<0.5	<0.5	<0.5
	11/15/04	NLPH	19.45	212.46	<50.0	15.2	15.0	<0.50	0.5	<0.5	1.2
	02/17/05	NLPH	16.02	215.89	<50.0	—	4.40	<0.50	<0.5	<0.5	<0.5
MW7 (231.71)	Dec-02	Well surveyed in compliance with AB 2886 requirements.									
	01/24/03	NLPH	11.33	223.38	71.9	79.1	76.5	<0.5	<0.5	<0.5	<0.5
	04/07/03	NLPH	16.39	218.32	<50.0	28.2	29.8	<0.50	<0.5	<0.5	<0.5
	7/11/03b	NLPH	18.55	216.16	<50.0	15.9	16.6	<0.50	<0.5	<0.5	<0.5
	10/02/03	NLPH	20.78	213.93	<50.0	44.1	50.3	<0.50	<0.5	<0.5	<0.5
	01/09/04	NLPH	12.50	222.21	<50.0	24.5	27.2	<0.50	<0.5	<0.5	<0.5
	04/06/04	NLPH	16.40	218.31	<50.0	5.5	4.2	<0.50	<0.5	<0.5	<0.5
	08/25/04	NLPH	21.92	212.79	<50.0	9.8	7.60	<0.50	<0.5	<0.5	<0.5
	11/15/04	NLPH	20.91	213.80	<50.0	12.3	11.8	1.00	1.8	1.2	4.5
	02/17/05	NLPH	16.86	217.85	<50.0	—	2.20	<0.50	<0.5	<0.5	0.7
MW8 (236.28)	10/07/02	NLPH	22.04	—	<50.0	0.5	<0.50	<0.5	<0.5	<0.5	<0.5
	Dec-02	Well surveyed in compliance with AB 2886 requirements.									
	01/24/03	NLPH	13.62	222.66	<50.0	<0.5	—	<0.5	<0.5	<0.5	<0.5
	04/07/03	NLPH	18.32	217.96	<50.0	6.1	5.60	<0.50	<0.5	<0.5	<0.5
	7/11/03b	NLPH	20.35	215.93	<50.0	4.4	4.80	<0.50	<0.5	<0.5	<0.5
	10/02/03	NLPH	22.64	213.64	<50.0	1.4	1.60	<0.50	<0.5	<0.5	<0.5
	01/09/04	NLPH	14.56	221.72	<50.0	0.5	0.60	<0.50	<0.5	<0.5	<0.5
	04/06/04	NLPH	18.56	217.72	<50.0	12.9	10.0	<0.50	<0.5	<0.5	<0.5
	08/25/04	NLPH	23.00	213.28	<50.0	2.2	1.60	<0.50	<0.5	<0.5	<0.5
	11/15/04	NLPH	22.70	213.58	<50.0	0.9	0.90	0.60	1.2	0.8	2.8
	02/17/05	NLPH	19.08	217.20	<50.0	—	5.40	<0.50	<0.5	<0.5	<0.5

Notes:

SUBJ	=	Results of subjective evaluation.
NLPH	=	No liquid-phase hydrocarbons present in well.
TOC	=	Elevation of top of well casing; relative to feet above mean sea level.
DTW	=	Depth to water.
Elev.	=	Elevation of groundwater surface; relative to mean sea level.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015 (modified).
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
MTBE	=	Methyl tertiary butyl ether.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
EDB	=	1,2-dibromoethane analyzed using EPA Method 8260B.
1,2-DCA	=	1,2-dichloroethane analyzed using EPA Method 8260B.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 8260B.
Ethanol	=	Ethanol analyzed using EPA Method 8260B.
<	=	Less than the indicated reporting limit shown by the laboratory.
ND	=	Analytes not detected at or above the laboratory reporting limit.
—	=	Not sampled/Not analyzed.
a	=	Elevation of casing altered during construction.
b	=	Groundwater samples received by laboratory out of temperature compliance at 14.4 degrees celsius.
c	=	Well inaccessible.
d	=	Sample containers broken in shipment; no analyses conducted.

TABLE 1B
 ADDITIONAL CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
 Former Exxon Service Station 7-3035
 4501 Sonoma Highway
 Santa Rosa, California
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Well ID #	Sampling Date	ETBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol
		μg/L						
MW1	12/01/94 - 01/09/98	Not analyzed for these analytes.						
	04/01/98	<2.0	<2.0	<100	—	—	<2.0	<500
	07/02/98 - 02/23/00	Not analyzed for these analytes.						
	05/30/00	—	<10	<500	<5	<5	<10	—
	06/16/00 - Property transferred to Valero Refining Company.							
	07/24/00 - 04/07/03	Not analyzed for these analytes.						
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/09/04	<0.50	<0.50	2,360	<0.50	<0.50	<0.50	—
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	1.10	11,200	<0.50	<0.50	<0.50	<50.0
MW2	12/01/94 - 01/09/98	Not analyzed for these analytes.						
	04/01/98	<2.0	<2.0	<100	—	—	<2.0	<500
	07/02/98 - 02/23/00	Not analyzed for these analytes.						
	05/30/00	—	<10	<500	<5	<5	<10	—
	06/16/00 - Property transferred to Valero Refining Company.							
	07/24/00 - 04/07/03	Not analyzed for these analytes.						
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/09/04	<0.50	<0.50	257	<0.50	<0.50	<0.50	—
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0
MW3	12/01/94 - 01/09/98	Not analyzed for these analytes.						
	04/01/98	<2.0	<2.0	<100	—	—	<2.0	<500
	07/02/98 - 02/23/00	Not analyzed for these analytes.						
	05/30/00	—	<10	<500	<5	<5	<10	—
	06/16/00 - Property transferred to Valero Refining Company.							
	07/24/00 - 04/07/03	Not analyzed for these analytes.						
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/07/04	NLPH	c	c	c	c	c	c
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0
MW4	12/01/94 - 01/09/98	Not analyzed for these analytes.						
	04/01/98	<2.0	<2.0	<100	—	—	<2.0	<500
	07/02/98 - 02/23/00	Not analyzed for these analytes.						
	05/30/00	—	<10	<500	<5	<5	<10	—
	06/16/00 - Property transferred to Valero Refining Company.							
	07/24/00 - 04/07/03	Not analyzed for these analytes.						
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/09/04	<0.50	3.10	2.49	<0.50	<0.50	<0.50	—
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	4.00	90.9	<0.50	<0.50	<0.50	<50.0
MW5	01/24/03	—	—	—	—	—	—	—
	04/07/03	—	—	—	—	—	—	—
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/09/04	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	—
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0

TABLE 1B
ADDITIONAL CUMULATIVE GROUNDWATER MONITORING AND SAMPLING DATA
Former Exxon Service Station 7-3035
4501 Sonoma Highway
Santa Rosa, California
(Page 2 of 2)

Well ID #	Sampling Date	ETBE	TAME	TBA	EDB	1,2-DCA	DIPE	Ethanol
		<			µg/L			>
MW6	10/07/02	—	—	—	—	—	—	—
	01/24/03	—	—	—	—	—	—	—
	04/07/03	—	—	—	—	—	—	—
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/09/04	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	—
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0
MW7	01/24/03	—	—	—	—	—	—	—
	04/07/03	—	—	—	—	—	—	—
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/09/04	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	—
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0
MW8	10/07/02	—	—	—	—	—	—	—
	01/24/03	—	—	—	—	—	—	—
	04/07/03	—	—	—	—	—	—	—
	07/11/03b	—	—	—	—	—	—	—
	10/02/03	—	—	—	—	—	—	—
	01/09/04	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	—
	04/06/04	—	—	—	—	—	—	—
	08/25/04	—	—	—	—	—	—	—
	11/15/04	—	—	—	—	—	—	—
	02/17/05	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0

Notes:

SUBJ	=	Results of subjective evaluation.
NLPH	=	No liquid-phase hydrocarbons present in well.
TOC	=	Elevation of top of well casing; relative to feet above mean sea level.
DTW	=	Depth to water.
Elev.	=	Elevation of groundwater surface; relative to mean sea level.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015 (modified).
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8021B.
MTBE	=	Methyl tertiary butyl ether.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 8260B.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 8260B.
EDB	=	1,2-dibromoethane analyzed using EPA Method 8260B.
1,2-DCA	=	1,2-dichloroethane analyzed using EPA Method 8260B.
DIPE	=	DI-Isopropyl ether analyzed using EPA Method 8260B.
Ethanol	=	Ethanol analyzed using EPA Method 8260B.
<	=	Less than the indicated reporting limit shown by the laboratory.
ND	=	Analytes not detected at or above the laboratory reporting limit.
—	=	Not sampled/Not analyzed.
a	=	Elevation of casing altered during construction.
b	=	Groundwater samples received by laboratory out of temperature compliance at 14.4 degrees celsius.
c	=	Well Inaccessible.
d	=	Sample containers broken in shipment; no analyses conducted.

TABLE 2A
ANALYTICAL LABORATORY RESULTS OF GROUNDWATER SAMPLES
Former Exxon Service Station 7-3035
4501 Sonoma Hwy
Santa Rosa, California
(Page 1 of 1)

Boring Number	Sample ID	Depth (feet bgs)	Date Sampled	TPHg ←-----µg/L-----→	MTBE	B	T	E	X
Groundwater Boring Samples									
CPT1	W-42-CPT1	42	8/18/2004	<100	6,100	<1.00	<1.0	<1.0	<3.0
CPT1	W-54-CPT1	54	8/18/2004	197	80.9	<0.50	<0.5	<0.5	1.4
CPT2	W-25-CPT2	25	8/20/2004	<50	<0.50	<0.50	<0.5	<0.5	<0.5
CPT2	W-38-CPT2	38	8/20/2004	<50	<0.50	<0.50	<0.5	<0.5	<0.5
CPT2	W-60-CPT2	60	8/20/2004	<50	<0.50	<0.50	<0.5	<0.5	<0.5
CPT3	W-25-CPT3	25	8/19/2004	73.2	<0.50	<0.50	<0.5	<0.5	<0.5
CPT3	W-35-CPT3	35	8/19/2004	<50	6.00	<0.50	<0.5	<0.5	<0.5
CPT3	W-48-CPT3	48	8/19/2004	<50	19.4	<0.50	<0.5	<0.5	<0.5
CPT4	W-36-CPT4	36	9/24/2004	3,240	5,200	<0.50	<0.5	<0.5	<0.5
CPT4	W-42-CPT4	42	9/24/2004	3,920	6,450	<0.50	<0.5	<0.5	0.8
CPT5	W-50-CPT5	50	8/20/2004	<50.0	3.40	<0.50	<0.5	<0.5	<0.5

Notes:

- W-42-CPT1 = Water sample-depth in feet below ground surface-boring cone penetrating test CPT1.
- bgs = Below ground surface.
- TPHg = Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8260B.
- MTBE = Methyl tertiary butyl ether analyzed using EPA Method 8260B.
- BTEX = Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
- ETBE = Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
- TAME =Tertiary amyl methyl ether analyzed using EPA Method 8260B.
- TBA =Tertiary butyl alcohol analyzed using EPA Method 8260B.
- EDB =1,2-dibromoethane analyzed using EPA Method 8260B.
- 1,2-DCA =1,2-dichloroethane analyzed using EPA Method 8260B.
- DIPE = Di-isopropyl ether analyzed using EPA Method 8260B.
- µg/L = Micrograms per liter.
- < = Less than the stated laboratory reporting limit.

TABLE 2B
ADDITIONAL LABORATORY RESULTS OF GROUNDWATER SAMPLES
Former Exxon Service Station 7-3035
4501 Sonoma Highway
Santa Rosa, California
(Page 1 of 1)

Well ID #	Sampling Date	Depth (feet bgs)	Date Sampled	ETBE	TAME	TBA	EDB	1,2-DCA	DIPE
				←————— µg/L —————→					
CPT1	W-42-CPT1	42	8/18/2004	<0.50	6.90	90.0	<0.50	<0.50	<0.50
CPT1	W-54-CPT1	54	8/18/2004	<0.50	<0.50	40.6	<0.50	<0.50	<0.50
CPT2	W-25-CPT2	25	8/20/2004	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50
CPT2	W-38-CPT2	38	8/20/2004	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50
CPT2	W-60-CPT2	60	8/20/2004	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50
CPT3	W-25-CPT3	25	8/20/2004	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50
CPT3	W-35-CPT3	35	8/20/2004	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50
CPT3	W-48-CPT3	48	8/20/2004	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50
CPT4	W-35-CPT4	36	9/24/2004	<0.50	5.00	1,620	<0.50	<0.50	<0.50
CPT4	W-42-CPT4	42	9/24/2004	<0.50	5.80	602	<0.50	<0.50	<0.50
CPT5	W-50-CPT5	50	8/20/2004	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50

Notes:

W-42-CPT1	= Water sample-depth in feet below ground surface-boring cone penetrating test CPT1.
bgs	= Below ground surface.
TPHg	= Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8260B.
BTEX	= Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 8260B.
MTBE	= Methyl tertiary butyl ether analyzed using EPA Method 8260B.
ETBE	= Ethyl tertiary butyl ether analyzed using EPA Method 8260B.
TAME	=Tertiary amyl methyl ether analyzed using EPA Method 8260B.
TBA	=Tertiary butyl alcohol analyzed using EPA Method 8260B.
EDB	=1,2-dibromoethane analyzed using EPA Method 8260B.
1,2-DCA	=1,2-dichloroethane analyzed using EPA Method 8260B.
DIPE	= Di-isopropyl ether analyzed using EPA Method 8260B.
µg/L	= Micrograms per liter.
<	= Less than the stated laboratory reporting limit.
—	= Not analyzed/not applicable.

TABLE 3
PRIVATE WATER WELLS SAMPLING DATA
Former Exxon Service Station 7-3035
4501 Sonoma Highway
Santa Rosa, California
(Page 1 of 1)

Well ID #	Sampling Date	TPHd	TPHg	MTBE	B	T	E	X	ETBE	TAME	TBA	EDB	1,2, DCA	DIPE	ETOH	MTOH
← μg/L →																
W-4420A	11/03/04	<50	<50.0	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
W-4420B	11/03/04	<50	<50.0	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
W-4372	11/03/04	<50	<50.0	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
W-4358	11/03/04	<50	<50.0	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
W-4200	11/03/04	<50	<50.0	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
W-4343	11/03/04	<50	<50.0	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
W-4100	11/03/04	<50	<50.0	<0.50	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
W-4389	08/19/04	<50	<100	3.80	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000
	10/04/04	<50	<50.0	1.30	<0.50	<0.50	<0.50	<1.00	<0.50	<0.50	<10.0	<0.50	<0.50	<0.50	<50.0	<10,000

Notes:

W-4420A	=	(W) Water well; (4420) street address number, (A) well designation, if more than one well is present.
TPHd	=	Total petroleum hydrocarbons as diesel analyzed using EPA Method 3510/8015B.
TPHg	=	Total petroleum hydrocarbons as gasoline analyzed using EPA Method 8015B.
MTBE	=	Methyl tertiary butyl ether analyzed using EPA Method 524.2.
BTEX	=	Benzene, toluene, ethylbenzene, and total xylenes analyzed using EPA Method 524.2.
ETBE	=	Ethyl tertiary butyl ether analyzed using EPA Method 524.2.
TAME	=	Tertiary amyl methyl ether analyzed using EPA Method 524.2.
TBA	=	Tertiary butyl alcohol analyzed using EPA Method 524.2.
EDB	=	1,2-Dibromoethane analyzed using EPA Method 524.2.
1,2-DCA	=	1,2-Dichloroethane analyzed using EPA Method 524.2.
DIPE	=	Di-isopropyl ether analyzed using EPA Method 524.2.
ETOH	=	Ethanol analyzed using EPA Method 524.2.
MTOH	=	Methanol analyzed using EPA Method 8015B.
μg/L	=	Micrograms per liter.
<	=	Not detected at or above the laboratory method reporting limit.

TABLE 4
Proposed Monitoring Well Design
Former Exxon Service Station 7-3035
4501 Sonoma Highway
Santa Rosa, California
(Page 1 of 1)

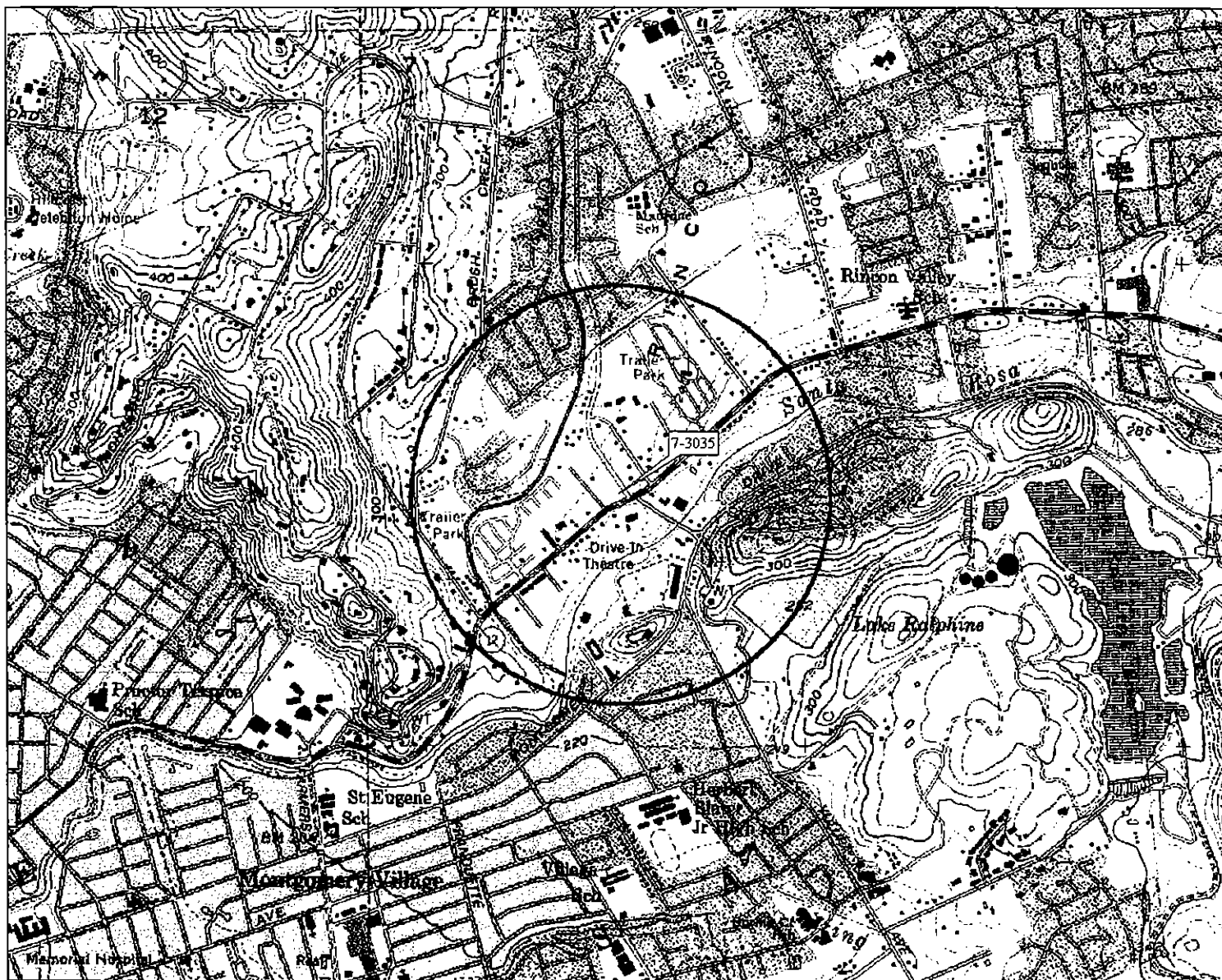
Monitoring Well	Total Depth (feet bgs)	Screen Interval (feet bgs)	Approximate Steel Casing Depth (feet bgs)
MW5B	45	40-45	30
MW5C	60	55-60	50
MW9A	30	10-30	None
MW9B	50	45-50	30
MW9C	60	55-60	50
MW10A	30	10-30	None
MW10B	45	40-45	39
MW10C	70	65-70	50
MW11A	30	10-30	None
MW11B	45	40-45	35
MW11C	60	55-60	50
MW12A	30	10-30	None
MW12B	55	50-55	40
MW12C	65	60-65	60

Notes:

bgs = Below ground surface.

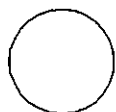
All monitoring wells will be designed based on the results of the CPT investigation, boring samples, and field conditions.

The parameters presented in this table are intended as general guidelines.



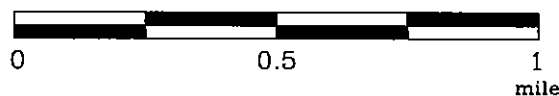
2003Topo

EXPLANATION



1/2-mile radius circle

APPROXIMATE SCALE



SOURCE:
Modified from a map
provided by
DeLorme 3-D TopoQuads



SITE VICINITY MAP

FORMER EXXON SERVICE STATION 7-3035
4501 Sonoma Highway
Santa Rosa, California

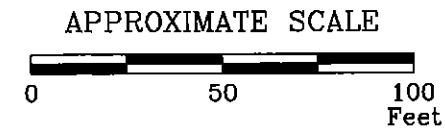
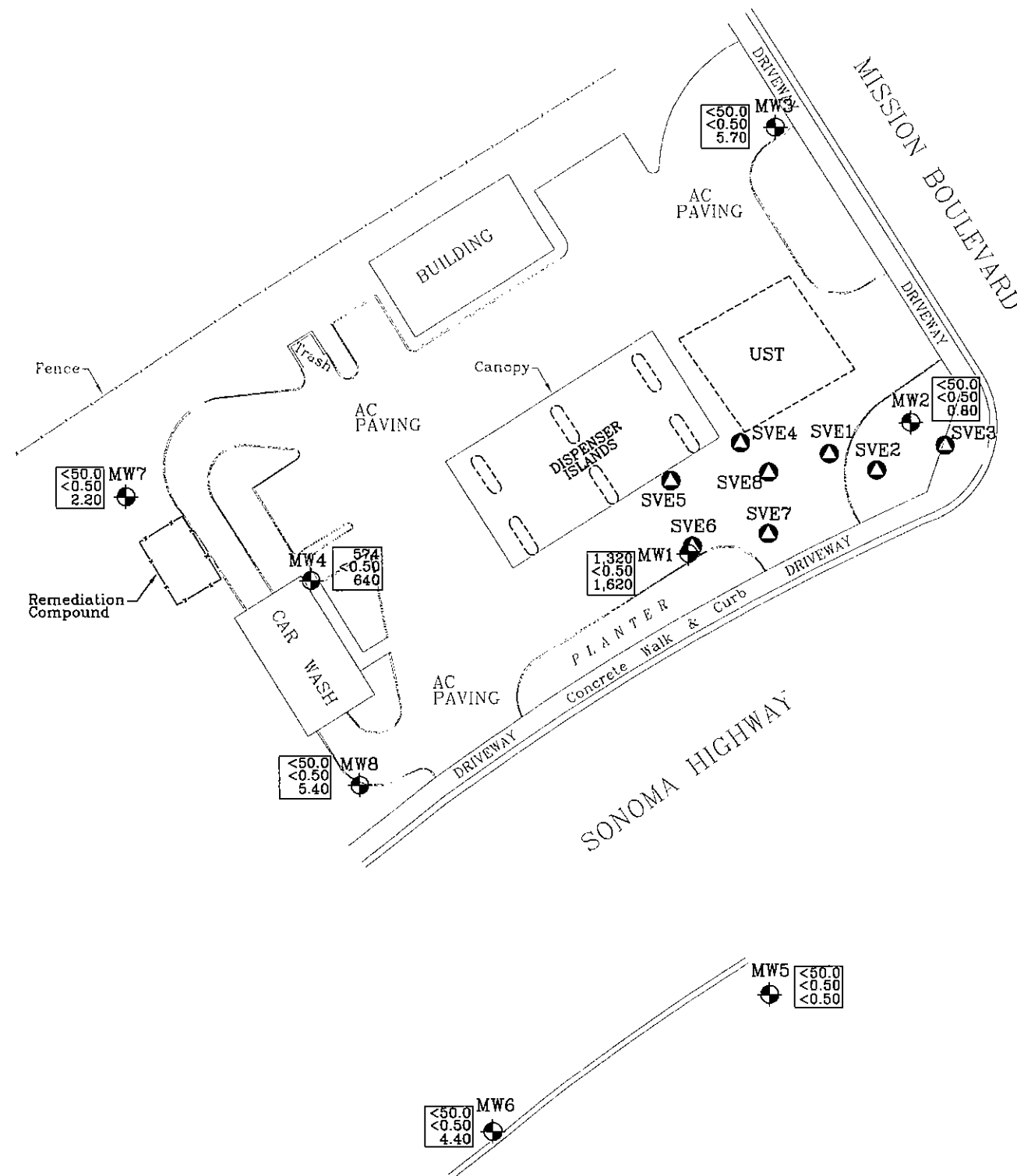
PROJECT NO.

2003

PLATE

1

Analyte Concentrations in ug/L
Sampled February 17, 2005
1,320 Total Petroleum Hydrocarbons
as gasoline
<0.50 Benzene
1,620 Methyl Tertiary Butyl Ether
< Less Than the Stated Laboratory
Reporting Limit
ug/L Micrograms per Liter



FN 20030005_QM



GENERALIZED SITE PLAN

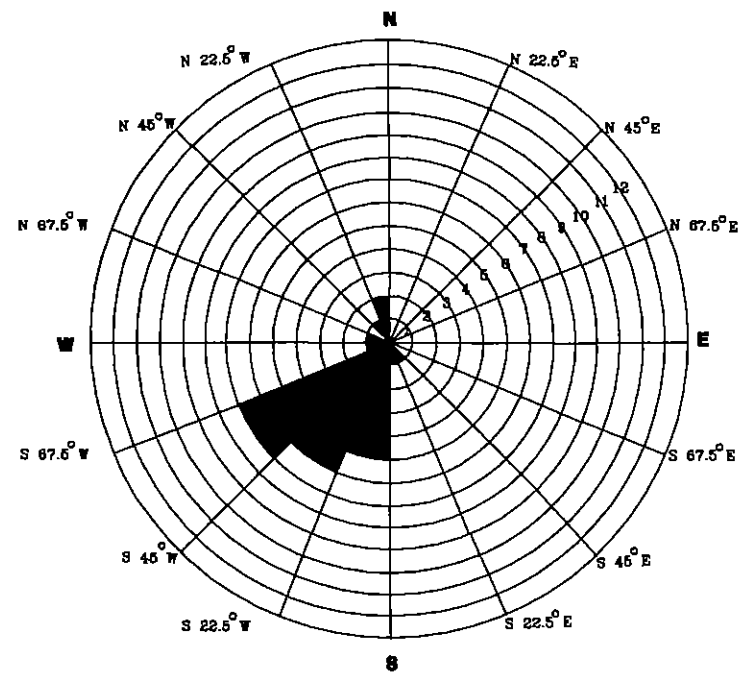
FORMER EXXON SERVICE STATION 7-3035
4501 Sonoma Highway
Santa Rosa, California

EXPLANATION
MW8
Groundwater Monitoring Well

SVE8
Air Sparge/Soil Vapor Extraction Well

PROJECT NO.
2003

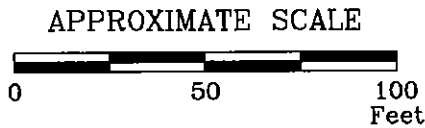
PLATE
2
Jan. 16, 2003



EXPLANATION

Rose diagram developed by evaluating the hydraulic gradient from the quarterly monitoring data. Each shaded area on the rose diagram represents the number of monitoring events that the hydraulic gradient plotted in that 22.5 degree sector. Data used is from second quarter to 1999 to first quarter 2005.

GROUNDWATER FLOW DIRECTION ROSE DIAGRAM



FN 20030005_QM



GROUNDWATER ELEVATION MAP
February 17, 2005
 FORMER EXXON SERVICE STATION 7-3035
 4501 Sonoma Highway
 Santa Rosa, California

EXPLANATION

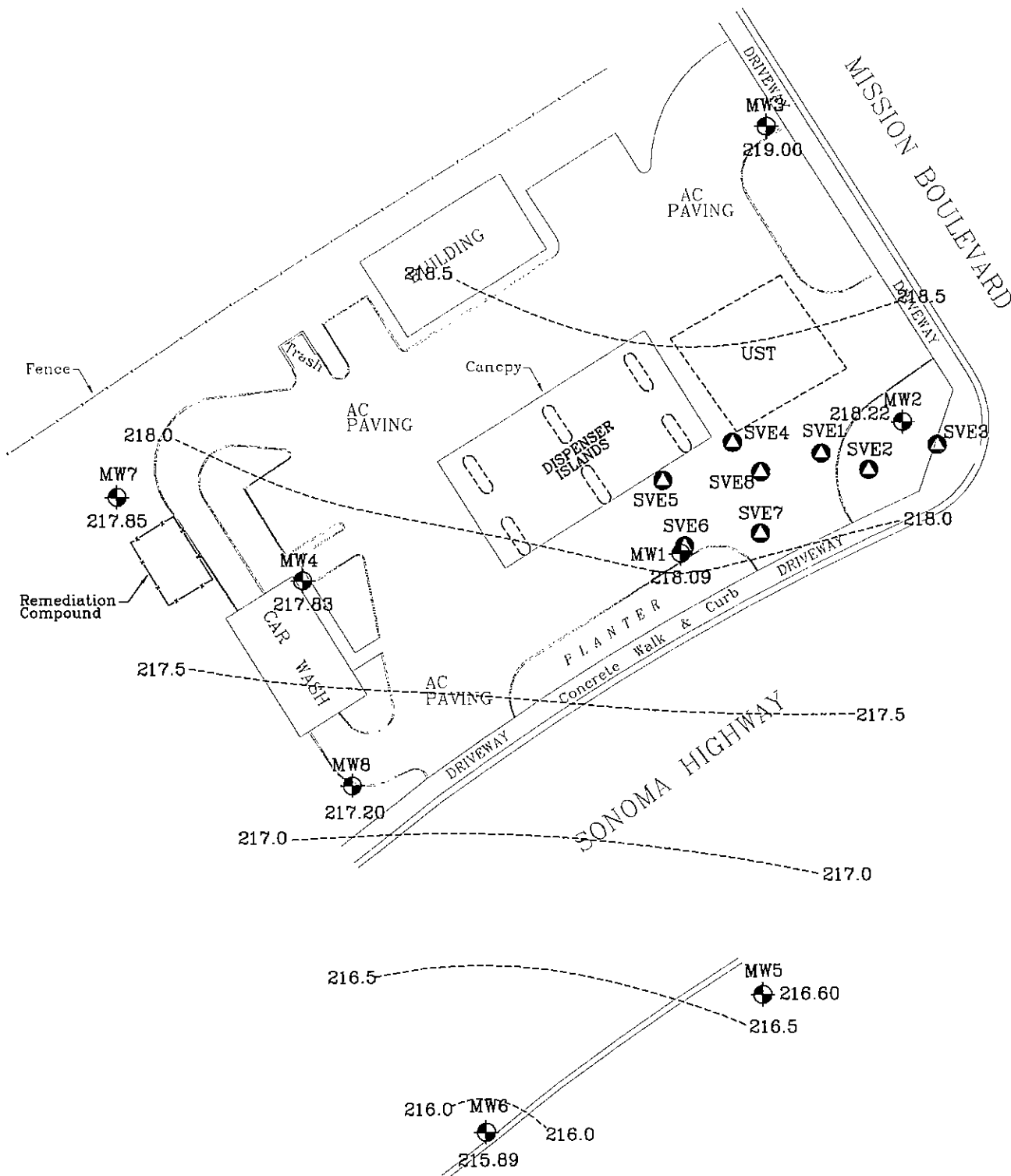
MW8
 Groundwater Monitoring Well

217.20
 Groundwater elevation in feet; datum is mean sea level

SVE8
 Air Sparge/Soil Vapor Extraction Well

PROJECT NO.
 2003

PLATE
 3
 Jan. 16, 2003

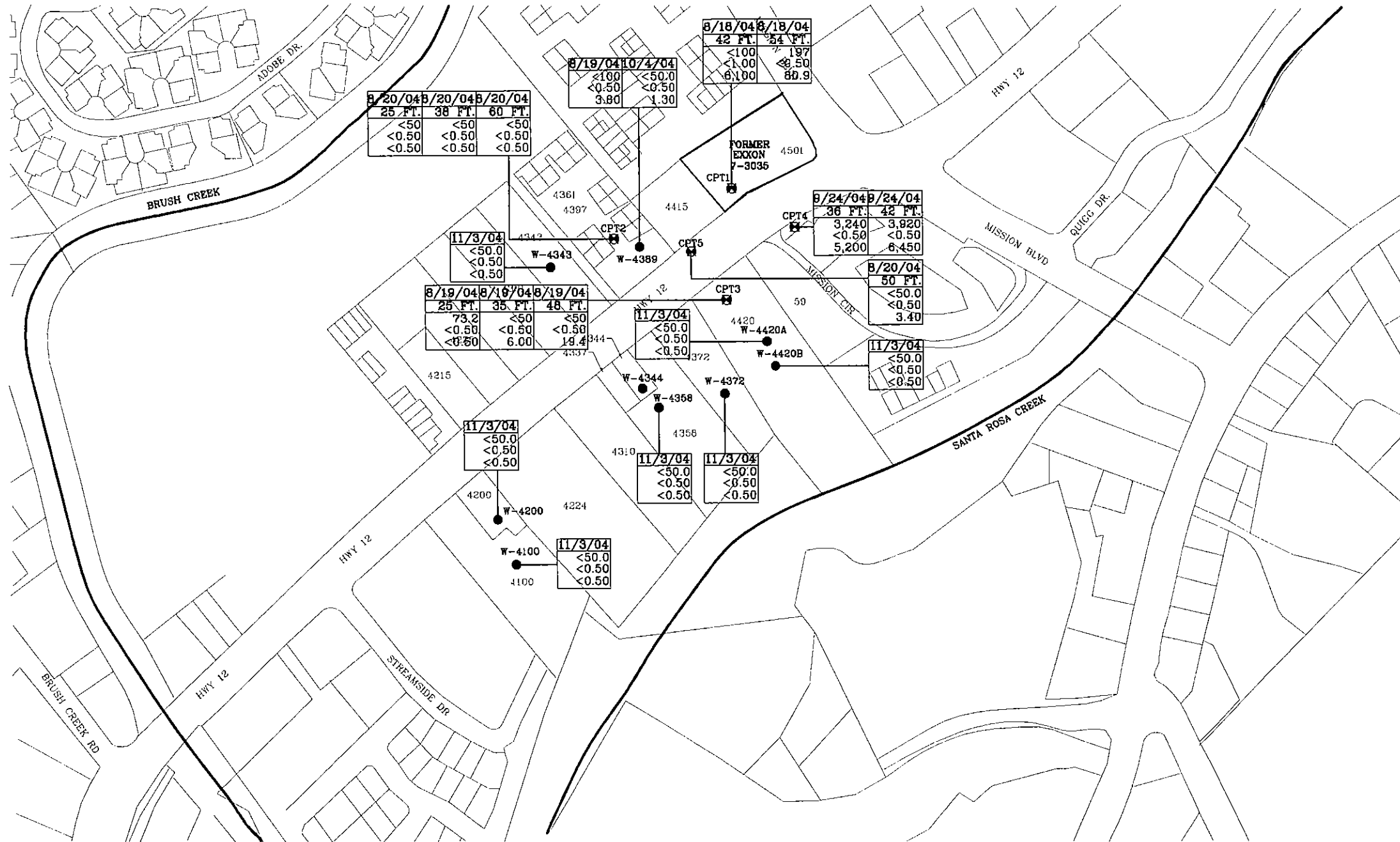


218.5-----Line of Equal Groundwater Elevation;
 datum is mean sea level

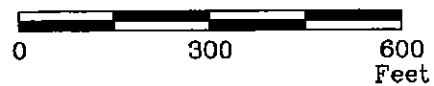
Analyte Concentrations in ug/L

8/19/04	Sample Date
<100	Total Petroleum Hydrocarbons as gasoline
<0.50	Benzene
3.80	Methyl Tertiary Butyl Ether

< Less Than the Stated Laboratory Reporting Limit
ug/L Micrograms per Liter



APPROXIMATE SCALE



FN 20030008_SP



CPT AND DOMESTIC WELL RESULTS

FORMER
EXXON SERVICE STATION 7-3035
4501 Sonoma Highway
Santa Rosa, California

EXPLANATION

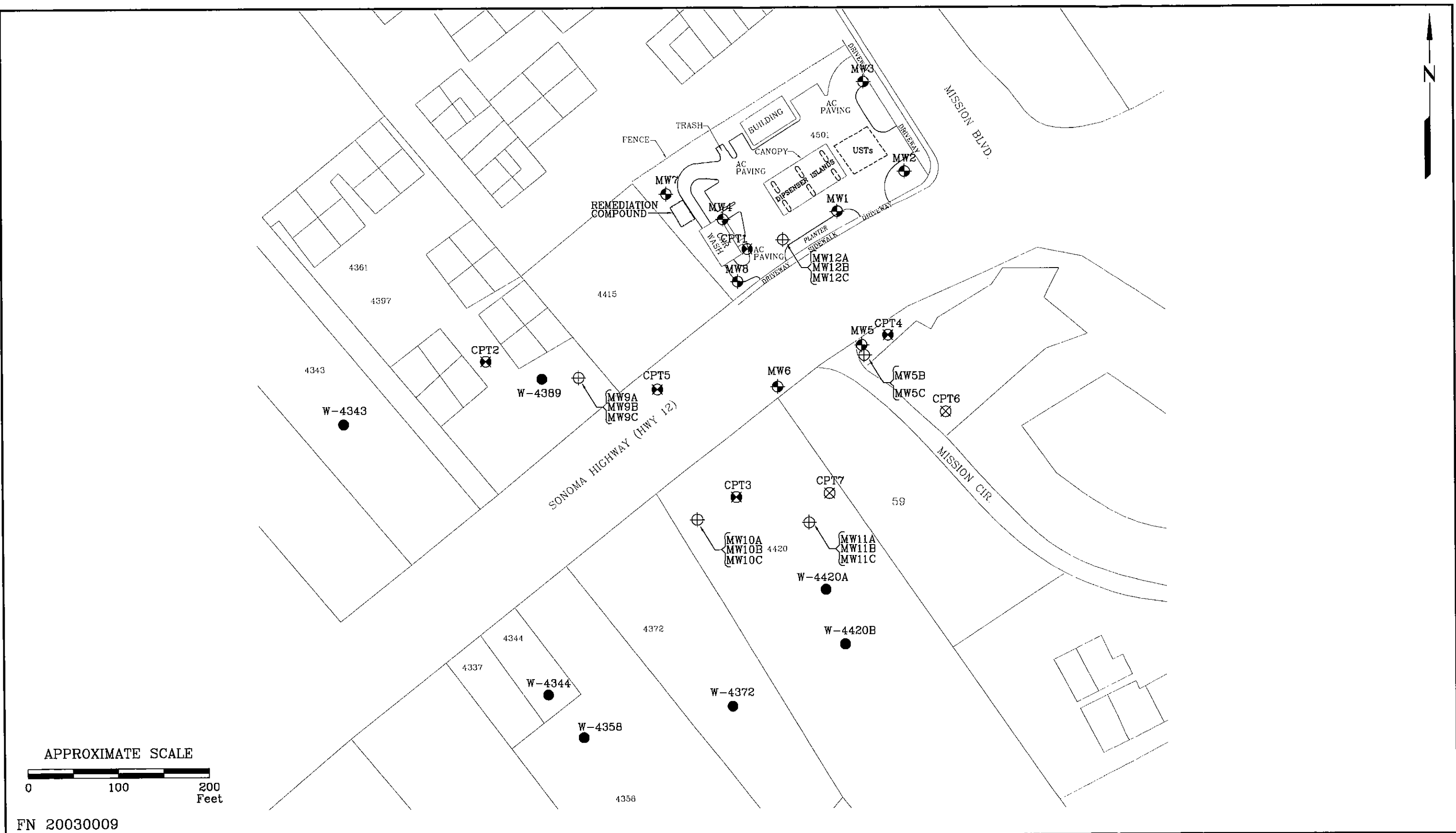
- W-4389
● Domestic Well
- CPT5
⊠ CPT Boring

PROJECT NO.

2003

PLATE

4



FN 20030009



**PROPOSED CPT AND MONITORING
WELL LOCATION MAP**
FORMER
EXXON SERVICE STATION 7-3035
4501 Sonoma Highway
Santa Rosa, California

EXPLANATION

MW8
⊕ Groundwater Monitoring Well
CPT5
⊗ CPT Boring
W-4389
● Domestic Water Wells

MW12A,B,C
⊕ Proposed Groundwater Monitoring Wells,
MW12A, MW12B, MW12C
CPT7
⊗ Proposed CPT Boring

PROJECT NO.
2003
PLATE
5

ATTACHMENT A
REGULATORY CORRESPONDENCE



California Regional Water Quality Control Board

North Coast Region

Beverly Wasson, Chairman

Alan C. Lloyd, Ph.D.
Agency Secretary

<http://www.waterboards.ca.gov/northcoast>
5550 Skylane Boulevard, Suite A, Santa Rosa, California 95403
Phone: 1 (877) 721-9203 (toll free) • Office: (707) 576-2220 • FAX: (707) 523-0135



Arnold
Schwarzenegger
Governor

April 28, 2005

Ms. Jennifer Sedlachek
ExxonMobil Refining and Supply
4096 Piedmont Avenue #194
Oakland, CA 94611

RECEIVED
MAY 02 2005

BY:.....

Subject: Comments on Supplemental Evaluation of Groundwater Report and Fourth Quarter 2004 Groundwater Monitoring and Remediation Status Report

File: Exxon #7-3035, 4501 Sonoma Highway, Santa Rosa, CA
Case No. 1TSR295

Dear Ms. Sedlachek:

Regional Water Board staff received the December 8, 2004 report titled *Supplemental Evaluation of Groundwater* prepared by Environmental Resolutions, Inc. (ERI) for the subject site. Thank you for submittal of the report containing the results of the CPT investigation. We have also received and reviewed the Fourth Quarter 2004 Groundwater Monitoring (QMR) and Remediation Status Report received March 7, 2005.

Our comments on the submitted reports are as follows:

Supplemental Evaluation of Groundwater-

- Five CPT borings were advanced in August 2004 and discrete groundwater samples were collected near the CPT locations from "interpreted coarse grain sediment layers." Results from the groundwater sampling indicate that significant concentrations of TPH gasoline and MTBE, and concentrations of TAME and TBA were detected in onsite sample point CPT-4 up to 42 feet below ground surface (bgs). TPH gasoline, MTBE, TAME, and TBA were detected in groundwater samples collected at depths up to 54 feet bgs in offsite sample location CPT- 1. Lesser concentrations of chemicals were detected at various depths in groundwater at CPT-3 and CPT-5.
- Staff does not agree that "dissolved hydrocarbons are delineated vertically and laterally southwest of the site by boring CPT-2." Although groundwater samples collected at CPT-2 did not contain detectable contamination, further work may be required in the future to delineate the contaminated groundwater plume southwest of MW-7, MW-4 and MW-8.

California Environmental Protection Agency

Recycled Paper

- The Supplemental Evaluation of Groundwater report did not contain an updated Sensitive Receptor Survey (SRS) or a workplan proposing additional work or installation of monitoring wells based on evaluation of the CPT results. Rob Saur, ERI, indicated in a phone conversation on March 18, 2005 that these reports would be submitted in one month.

Summary of Sampling of Domestic Wells Report Received-

- Thank you for submittal of the report titled, *Summary of Sampling of Domestic Wells* prepared by ERI, Inc. and received April 5, 2005. According to ERI, the results of the domestic well sampling have been provided to individual property owners. Sampling of selected water supply wells recommended by ERI can and should commence with the next quarterly monitoring event.
- Staff has not had an opportunity to review the report on sampling of domestic wells at this time. Staff comments on the domestic well sampling report will be forthcoming.
- In order to compile all SRS information for this site in one location, please include any new information such as private well locations and sampling results, as an addendum or update to the April 16, 2004 SRS. Please include an updated SRS map for the site in the addendum showing all well locations and other sensitive receptors located near the site.

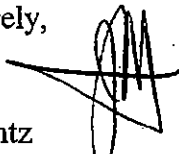
Fourth Quarter 2004 Groundwater Monitoring and Remediation Status Report-

- Diesel range organics were detected in an effluent and intermediate groundwater sample collected from the treatment system on October 6, 2004. The laboratory analytical result is footnoted. Please further characterize this detection. Diesel is currently not analyzed in the quarterly monitoring of groundwater at this site.
- Based on the groundwater sampling results reported for the CPT investigation, all monitoring wells need to be sampled quarterly for the seven fuel oxygenates, including ethanol and methanol, using EPA Method 8260.

In summary, we request submittal of the following: 1) a workplan for installation of shallow and deep monitoring wells based on the CPT findings, quarterly monitoring data, and domestic well sampling results and 2) an SRS addendum or update report to include a compilation of all wells identified in the area, and an updated SRS map. Please submit these plans within 35 days of receipt of this letter.

If you have any questions, please contact me at (707) 576-2838.

Sincerely,



Jo Bentz
Engineering Geologist

JB:clh/042805_JB_Comments on CPT report- Exxon, 4501 Sonoma Hwy 2.doc

cc: Mr. James Chappell, Environmental Resolutions, Inc., 73 Digital Drive, Suite 100,
Novato, California 94949-5791
Mr. Joseph A Aldridge, Valero Energy Corporation, 685 West Third Street, Hanford, CA
93230
Santa Rosa Fire Department
John Anderson, SCEHD
Whitney Parker, 4389 Sonoma Hwy., Santa Rosa, CA 95409
Lisa Esposito, Massingham and Associate Management, Inc., 2890 North Main Street,
Suite 304, Walnut Creek, CA 94597

ATTACHMENT B

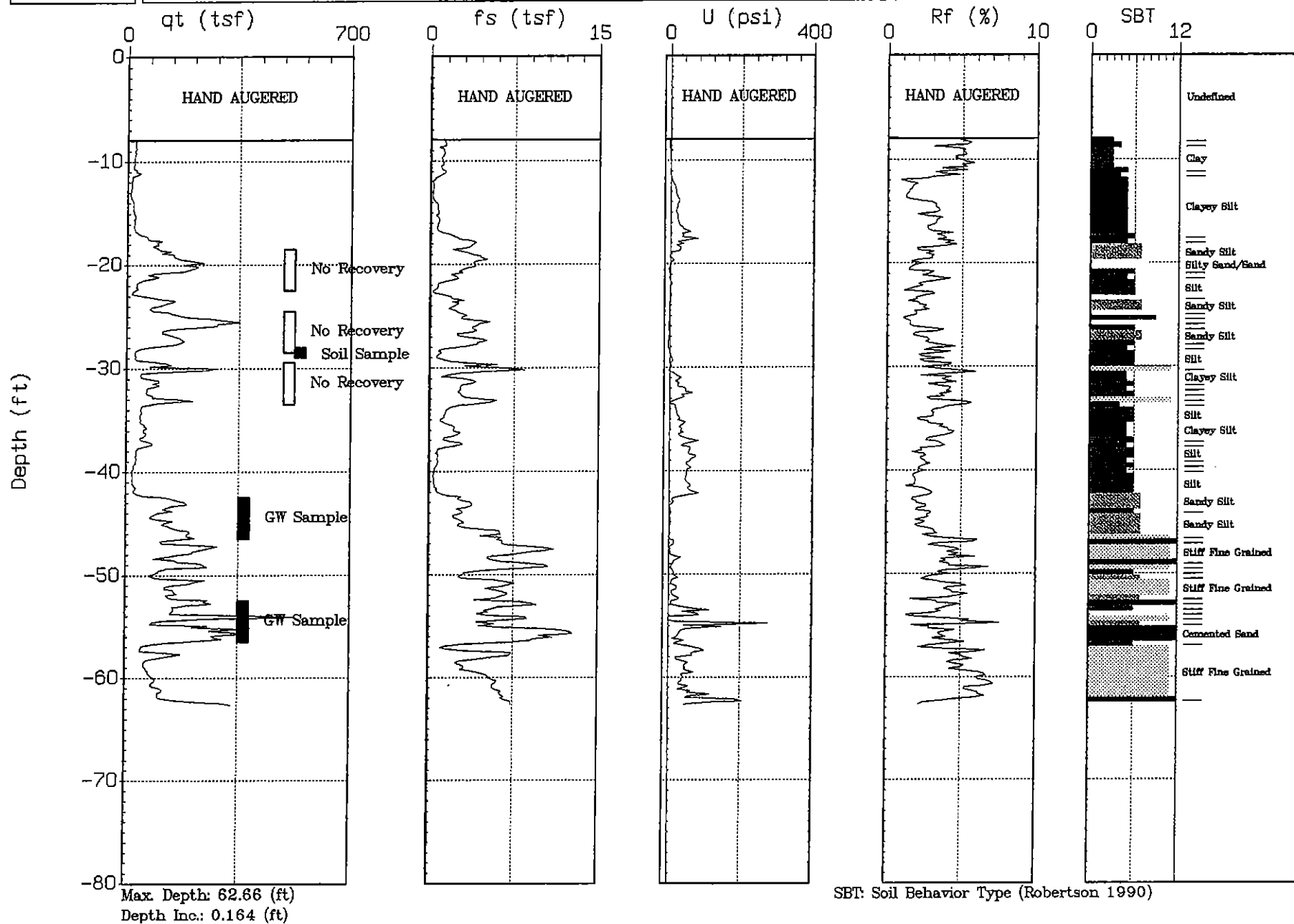
GREGG DRILLING CONE PENETRATION TEST LOGS



ERI

Site: 4501 Sonoma
Location: CPT-01

Geologist: L. CULLMAN
Date: 08:16:04 09:44

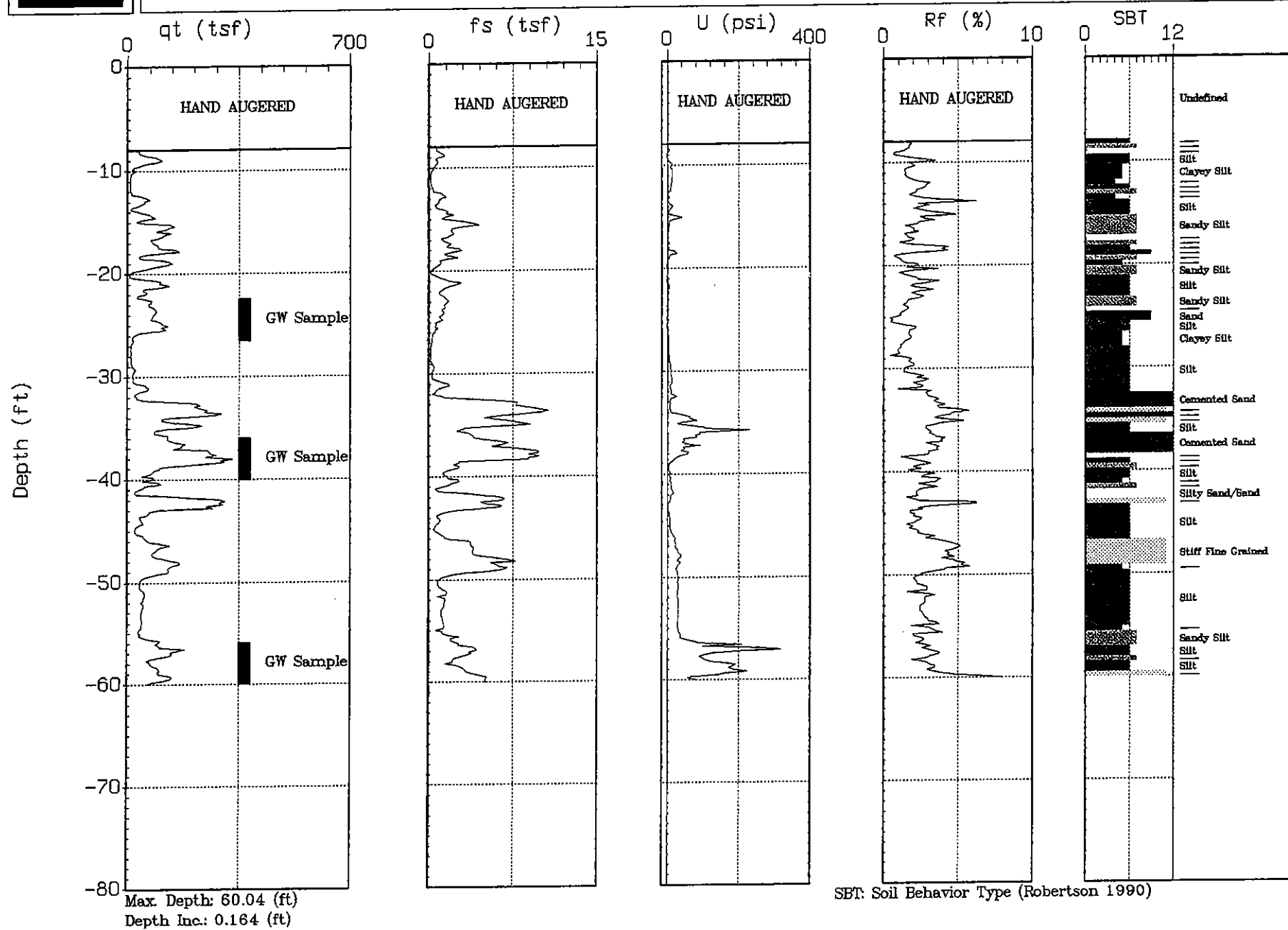




ERI

Site: 4501 Sonoma
Location: CPT-02

Geologist: L. CULLMAN
Date: 08:20:04 14:34

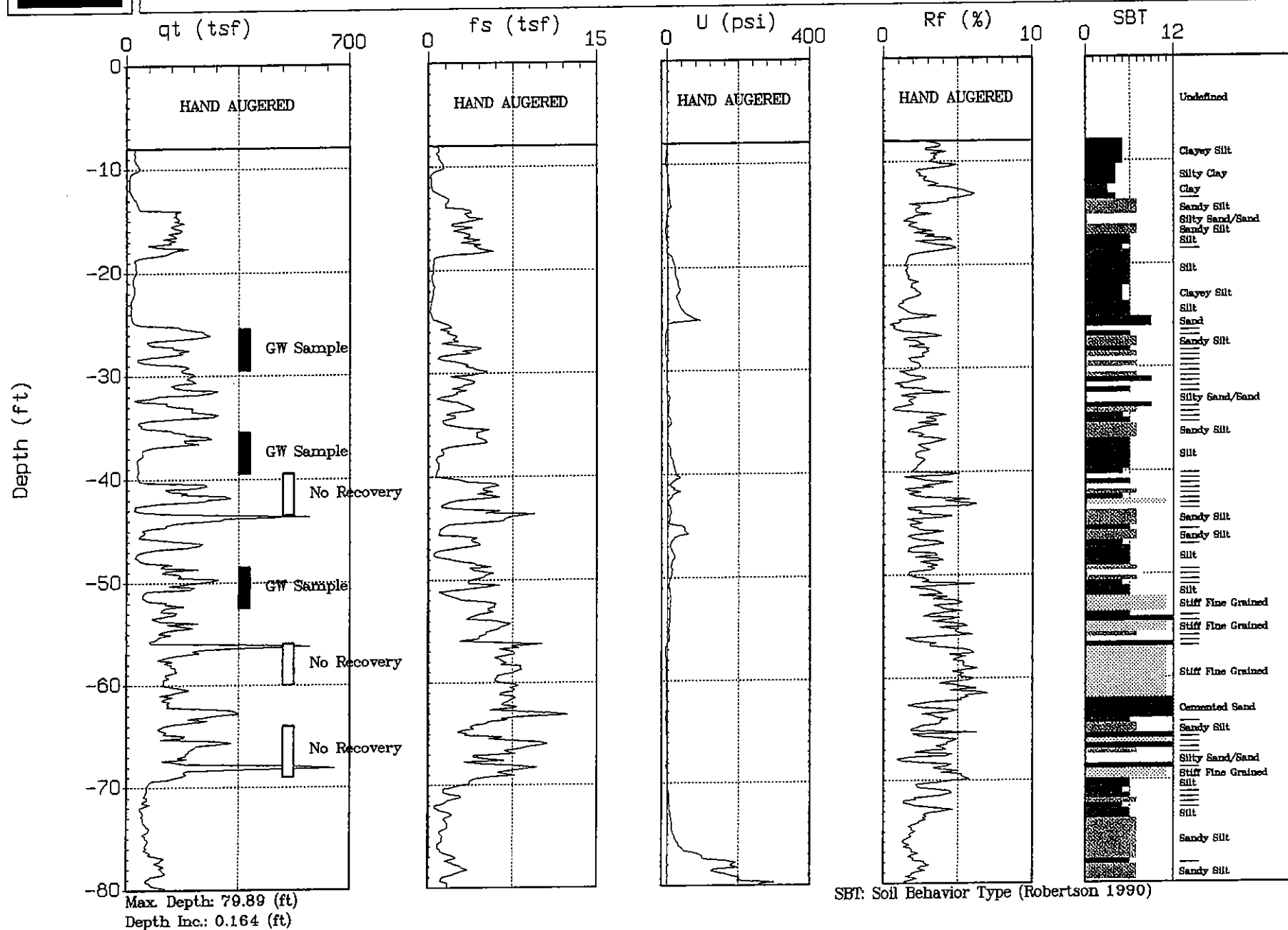




ERI

Site: 4501 Sonoma
Location: CPT-03

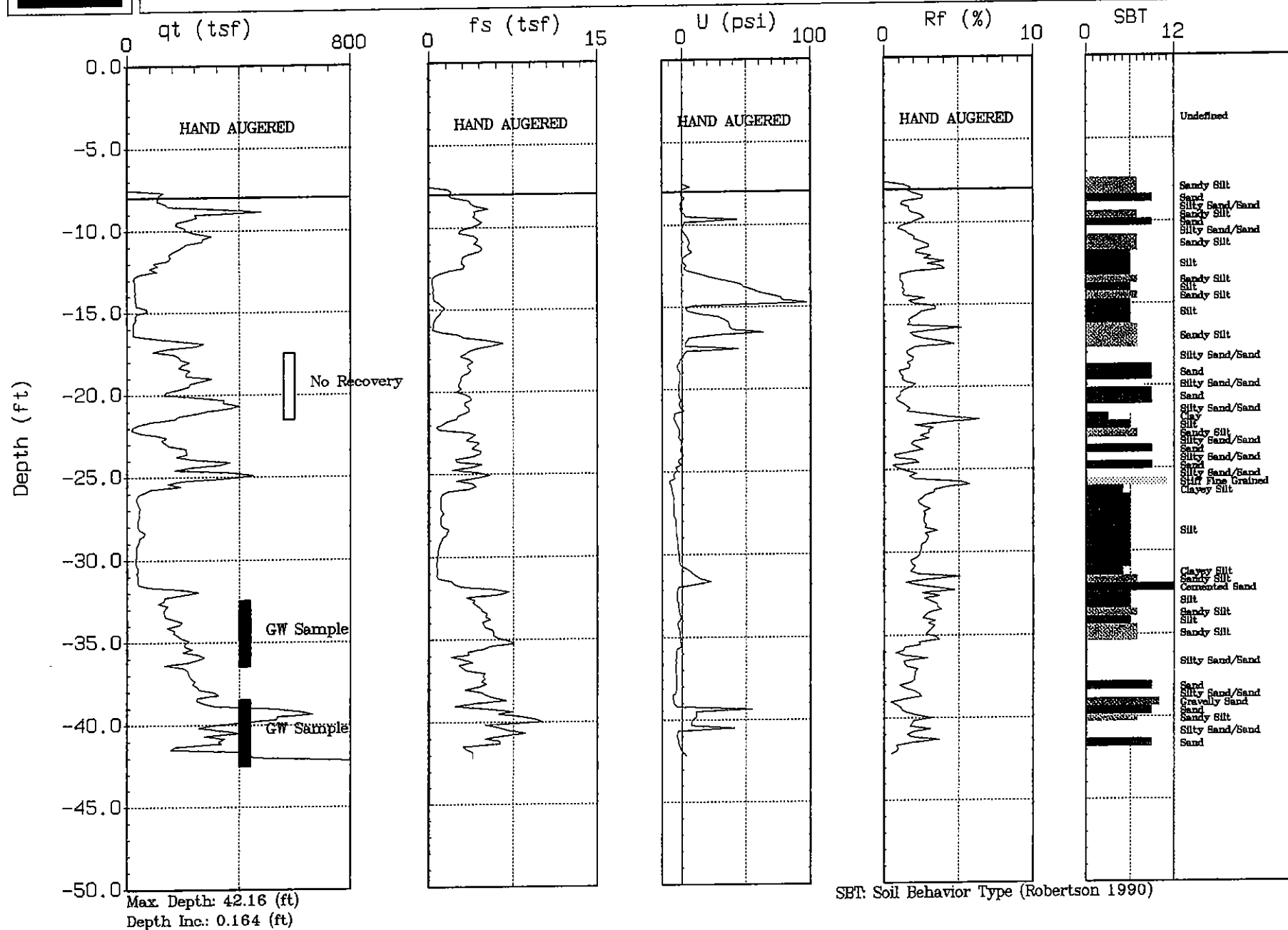
Geologist: L. CULLMAN
Date: 08:19:04 09:24





Site: 4501 SONOMA HWY
Location: CPT-04

Geologist: L. CULLMAN
Date: 09:24:04 09:20

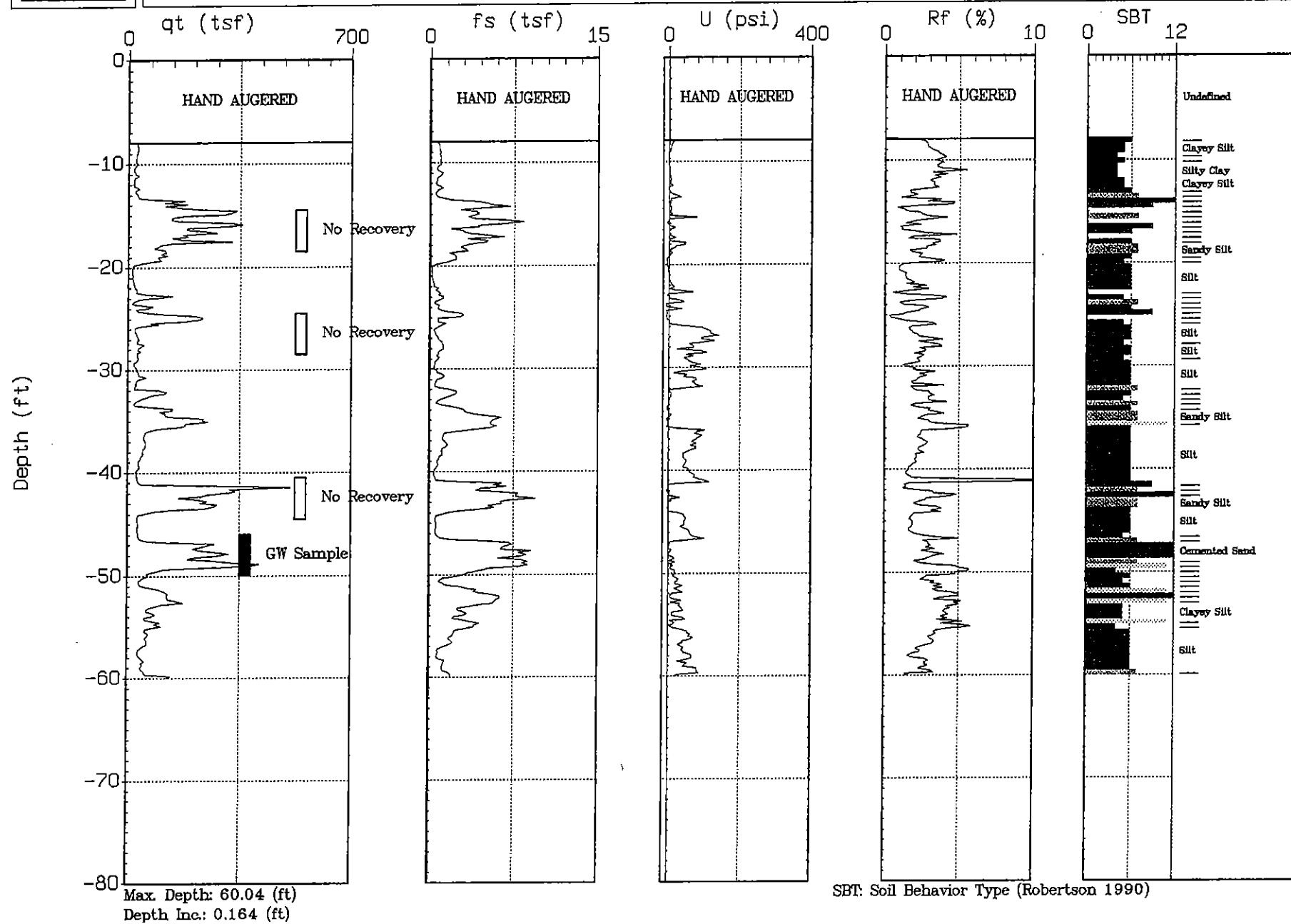




ERI

Site: 4501 Sonoma
Location: CPT-05

Geologist: L. CULLMAN
Date: 08/20/04 09:21



ATTACHMENT C
FIELD PROTOCOL

FIELD PROTOCOL

Site Safety Plan

Field work will be performed by ERI personnel in accordance with a Site Safety Plan developed for the site. This plan describes the basic safety requirements for the subsurface investigation and the drilling of soil borings at the work site. The Site Safety Plan is applicable to personnel and subcontractors of ERI. Personnel at the site are informed of the contents of the Site Safety Plan before work begins. A copy of the Site Safety Plan is kept at the work site and is available for reference by appropriate parties during the work. The ERI geologist will act as the Site Safety Officer.

Drilling of Soil Borings

Prior to the drilling of soil borings, ERI will acquire necessary permits from the appropriate agency(ies). ERI will also contact Underground Service Alert (USA) and a private underground utility locator (per ExxonMobil protocol) before drilling to help locate public utility lines at the site. ERI will clear the proposed locations to a depth of approximately 4 or 8 feet (depending on the location), before drilling to reduce the risk of damaging underground structures.

The CPT borings will be advanced using direct-push technology. The monitoring well borings will be drilled with a B57 (or similar) drill rig with hollow-stem auger. Auger flights and sampling equipment will be steam-cleaned before use to minimize the possibility of crosshole contamination. The rinsate will be containerized and stored on site. ERI will coordinate with ExxonMobil for appropriate disposal of the rinsate.

Drilling will be performed under the observation of a field geologist, and the earth materials in the boring will be identified using visual and manual methods, and classified as drilling progresses using the Unified Soil Classification System.

During drilling, soil samples will be collected at 5-foot intervals. Samples will be collected with a California-modified, split-spoon sampler equipped with laboratory-cleaned brass sleeves. Samples will be collected by advancing the auger to a point just above the sampling depth and driving the sampler into the soil. The sampler will be driven 18 inches with a standard 140-pound hammer repeatedly dropped 30 inches. The number of blows required to drive the sampler each successive 6-inch interval will be counted and recorded to give an indication of soil consistency.

Soil samples will be monitored with a photo-ionization detector (PID), which measures hydrocarbon concentrations in the ambient air or headspace above the soil sample. Field instruments such as the PID are useful for indicating relative levels of hydrocarbon vapors, but do not detect concentrations of hydrocarbons with the same precision as laboratory analyses. Soil samples selected for possible chemical analysis will be sealed promptly with Teflon® tape and plastic caps. The samples will be labeled and placed in iced storage for transport to the laboratory. Chain-of-Custody records will be initiated by the geologist in the field, updated throughout handling of the samples, and sent with the samples to the laboratory. Copies of these records will be in the final report. Cuttings generated during drilling will be placed on plastic sheeting and covered and left at the site. ERI will coordinate with ExxonMobil for the soil to be removed to an appropriate disposal facility.

Well Construction

The monitoring wells will be constructed in the borings using thread-jointed, 2-inch inner diameter, Schedule 40 polyvinyl chloride (PVC) casing. No chemical cements, glues, or solvents will be used in well construction. The screened portion of the wells will consist of factory-perforated casing with 0.020-inch wide slots. Unperforated casing will be installed from the top of each screen to the ground surface. The annular space in the wells will be packed with number 3 sand to approximately one foot above the slotted interval and a surged and refilled bentonite plug will be added above the sand pack to prevent cement from entering the well pack. The remaining annulus will be backfilled to grade with slurry of cement and bentonite powder.

The wells will be protected with a locking cap and a traffic-rated, cast-steel utility box equipped with a steel skirt. The box has a watertight seal to protect against surface-water infiltration.

Well Development and Sampling

ERI will wait a minimum of 24 hours before development of the wells to allow the grout to set. The wells will be developed with a surge block and pump. Well development will continue until the discharge water is clear of silt and sand. Clay-size sediments derived from the screened portion of the formation cannot be eliminated by well development. After the wells have been allowed to stabilize, the wells will be checked for separate-phase hydrocarbons using an interface probe. The thickness of any separate-phase hydrocarbons detected in the wells will be recorded. If free phase hydrocarbons are encountered in a well, the well will not be purged, and the water will not be sampled for chemical analysis.

If no separate-phase hydrocarbons are detected after development, the groundwater monitoring wells will be purged of stagnant water and a sample will be collected for laboratory analysis. The wells will be purged of approximately 3 to 5 well volumes of water with a submersible pump, or until pH, conductivity, and temperature of the purged water have stabilized. Water purged from the wells will be transported by ERI for disposal at Romic, Inc., of East Palo Alto, California.

The wells will be allowed to recover to at least 80 percent of static conditions, and a sample of the formation water will be collected with a disposable Teflon® bailer. The water will be transferred slowly from the bailer to laboratory-cleaned, 1 liter amber bottles and 40-milliliter glass vials for analyses by the laboratory. The glass vials will contain hydrochloric acid as a preservative. The sampler will check to see if headspace is present. If headspace is present, the sampler will collect more samples until none is present. Chain-of-Custody record will be initiated in the field by the sampler, updated throughout handling of the samples, and sent along with the samples to the laboratory. A copy of the Chain-of-Custody record will be included in our final report.

Groundwater Sample Collection

The static water level and separate-phase product level, if present, in each well that contained water and/or separate-phase product are measured with an ORS Interface Probe, which is accurate to the nearest 0.01 foot. To calculate groundwater elevations and evaluate hydraulic gradient, depth to water (DTW) levels are subtracted from top of casing elevation.

Groundwater samples collected for subjective evaluation are collected by gently lowering approximately half the length of a clean Teflon® or polypropylene bailer past the air-water interface (if possible) and collecting a sample from near the surface of the water in the well. The samples are checked for measurable free-phase hydrocarbons or sheen. If appropriate, free-phase hydrocarbons are removed from the well.

Before water samples are collected from the groundwater monitoring wells, the wells are purged until a minimum of three well casing volumes is purged and stabilization of the temperature, pH, and conductivity is obtained. Water samples from the wells that do not obtain stability of the temperature, pH, and conductivity are considered to be "grab samples". The quantity of water purged from each well is calculated as follows:

1 well casing volume = $\pi r^2 h (7.48)$ where:

r	=	radius of the well casing in feet.
h	=	column of water in the well in feet (depth to bottom - depth to water)
7.48	=	conversion constant from cubic feet to gallons
π	=	ratio of the circumference of a circle to its

diameter

Gallons of water purged/gallons in 1 well casing volume = well casing volumes removed.

After purging, each well is allowed to recharge to at least 80% of the initial water level. Water samples from wells that do not recover at least 80% (due to slow recharging of the well) between purging and sampling are considered to be "grab samples". Water samples are collected with a new, disposable Teflon® or polypropylene bailer. The groundwater is carefully poured into selected sample containers (40-milliliter [ml] glass vials, 1,000-ml glass amber bottles, etc.), which are filled so as to produce a positive meniscus.

Depending on the required analysis, each sample container is preserved with hydrochloric acid, nitric acid, etc., or it is preservative free. The type of preservative used for each sample is specified on the Chain-of-Custody form.

Each vial and glass amber bottle is sealed with a cap containing a Teflon® septum, and subsequently examined for air bubbles to avoid headspace, which would allow volatilization to occur. The samples are promptly transported in iced storage in a thermally insulated ice chest, accompanied by a Chain-of-Custody record, to a California state-certified laboratory.

Site Safety Plan

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